

GenCore version 5.1.4-p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 2863.13 Seconds
(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-9

Perfect score: 987
Sequence: 1 atgtatctcagatgcactat.....acaacagctactacacagttt 987

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapept 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : GenEmbl.*

1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pi:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pin:*
35: em_htg_rod:*
36: em_htg_mam:*
37: em_htg_vtl:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_hugo_other:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	987	100.0	1897	4	AF106826	AF106826 Canis fam
2	704	71.3	1795	4	AF106827	AF106827 Canis fam
3	61	6.2	1138	4	AF157827	AF157827 Felis cat
4	61	6.2	1270	4	AB030652	AB030652 Felis cat
5	61	6.2	2830	4	AY007704	AY007704 Felis cat
6	41	4.2	994	4	PICCD866	L760299 Sus scrofa
7	41	4.2	994	6	AX027016	AX027016 Sequence
8	33	3.3	738	6	AX002781	AX002781 Sequence
9	33	3.3	738	6	AX149548	AX149548 Sequence
10	33	3.3	751	6	AR147737	AR147737 Sequence
11	33	3.3	751	6	AR159759	AR159759 Sequence
12	33	3.3	751	6	AR160451	AR160451 Sequence
13	33	3.3	751	6	AR202407	AR202407 Sequence
14	33	3.3	972	6	AX027005	AX027005 Sequence
15	33	3.3	1002	6	AR147736	AR147736 Sequence
16	33	3.3	1002	6	AR159758	AR159758 Sequence
17	33	3.3	1002	6	AR160450	AR160450 Sequence
18	33	3.3	1002	6	AR202406	AR202406 Sequence
19	33	3.3	1044	6	AF344851	AF344851 Macaca ne
20	33	3.3	1048	9	AF344857	AF344857 Macaca mu
21	33	3.3	1062	9	AF344840	AF344840 Cercopit
22	33	3.3	1062	9	AF344861	AF344861 Cercopit
23	33	3.3	1112	6	HUMB72A	L25259 Human CTIA4
24	33	3.3	1120	6	AR030780	AR030780 Sequence
25	33	3.3	1120	6	AR112747	AR112747 Sequence
26	33	3.3	1120	6	AR146413	AR146413 Sequence
27	33	3.3	1120	6	AR196804	AR196804 Sequence
28	33	3.3	1120	6	AX047043	AX047043 Sequence
29	33	3.3	1161	6	AR146414	AR146414 Sequence
30	33	3.3	1424	6	AR178980	AR178980 Sequence
31	33	3.3	1424	6	AX330924	AX330924 Sequence
32	33	3.3	1424	6	AX332506	AX332506 Sequence
33	33	3.3	1424	6	HSU04343	U04343 Human CD86
34	33	3.3	2205	6	AX188198	AX188198 Sequence
35	32	3.2	330	6	AR112783	AR112783 Sequence
36	32	3.2	741	9	HSB72S4	U17718 Human CTIA-
37	32	3.2	901	9	AF344836	AF344836 Papio cyn
38	32	3.2	164161	9	AC068630	AC068630 Homo sapi
39	27	2.7	28	6	AR090481	AR090481 Sequence
40	27	2.7	28	6	AR197516	AR197516 Sequence
41	24	2.4	62	6	AR112790	AR112790 Sequence
42	24	2.4	63	6	AR112789	AR112789 Sequence
43	24	2.4	306	6	AR112784	AR112784 Sequence
44	24	2.4	737	9	HSB72S5	U17719 Human CTIA-
45	23	2.3	76884	2	AC103292	AC103292 Rattus no
46	22	2.2	924	4	BT291475	BT291475 Bos tauru
47	22	2.2	44971	9	AC105251	AC105251 Homo sapi
48	22	2.2	66325	2	AC016425	AC016425 Homo sapi
49	22	2.2	75974	2	AC090991	AC090991 Homo sapi
50	22	2.2	81323	2	AC099244	AC099244 Rattus no
51	22	2.2	94203	2	AC023907	AC023907 Homo sapi
52	22	2.2	208230	2	AC090651	AC090651 Homo sapi
53	22	2.2	262549	2	AC113623	AC113623 Rattus no
54	21	2.1	133	4	AF222915	AF222915 Sus scrof
55	21	2.1	175	9	HSU38432	U38432 Human clone
56	21	2.1	210	6	AR146418	AR146418 Sequence
57	21	2.1	449	10	RNU31330	U31330 Rattus norv
58	21	2.1	505	6	AX153653	AX153653 Sequence
59	21	2.1	630	9	HSB72S8	U17722 Human CTIA-
60	21	2.1	942	6	E14273	E14273 Rat mRNA fo
61	21	2.1	942	10	D50558	D50558 Rattus norv
62	21	2.1	2540	9	AK098323	AK098323 Homo sapi
63	21	2.1	2949	9	AY028435	AY028435 Homo sapi
64	21	2.1	2954	9	AK001486	AK001486 Homo sapi
65	21	2.1	3055	9	BC032109	BC032109 Homo sapi

781	TCGGGATGATGTCCTTTTAAACCTAAGGAAAGAAAGAACGACCTGGCCCCCT	840
Db	TTTTGGATGATGTCCTTTTAAACCTAAGGAAAGAAAGAAAGAACGACCTGGCCCCCT	845
Qy	CATGAATGTGAACCAACAAGTGGAGAGAAAGAAAGTGAAGCAGACCAAGAAAGACTA	900
Db	TTTTGGATGATGTCCTTTTAAACCTAAGGAAAGAAAGAAAGTGAAGCAGACCAAGAAAGACTA	905
Qy	CGGTACCATGAAGGAAAGATCTGATGAAGCCAGTGTGTACATTTTCAAGACAGCT	960
Db	CGGTACCATGAAGGAAAGATCTGATGAAGCCAGTGTGTGTACATTTTCAAGACAGCT	965
Qy	TCAGGCGACACAGTACTACAGCTT	987
Db	TCAGGCGACACAGTACTACAGCTT	992
RESULT 2		
AF106827	1795 bp	mRNA linear
LOCUS	Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.	
DEFINITION	AF106827	
ACCESSION	AF106827.1	GI:6572518
VERSION		
KEYWORDS	Canis familiaris.	
SOURCE	Canis familiaris.	
ORGANISM	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.	
REFERENCE	1 (bases 1 to 1795)	
AUTHORS	Yang, S. and Slim, G. K.	
TITLE	New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules	
JOURNAL	Immunogenetics 50 (5-6), 349-353 (1999)	
MEDLINE	20093996	
PUBMED	10630300	
REFERENCE	2 (bases 1 to 1795)	
AUTHORS	Yang, S. and Slim, G. K.	
TITLE	Direct Submision	
JOURNAL	Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA	
FEATURES		
source	1. 1795	location/Qualifiers
gene	/organism="Canis familiaris"	
5' UTR	/db_xref="taxon:9615"	
CDS	/cell_type="peripheral blood mononuclear cells"	
3' UTR	1. 1795	
ORIGIN	/gene="CD86"	
BASE COUNT	1. 6	
592 a	/gene="CD86"	
366 c	7. 849	
347 g	/gene="CD86"	
490 t	/function="counter-receptor for CD28 and CD152 (CTLA4)"	
	/note="lacks transmembrane domain; alternatively spliced"	
	/codon_start=1	
	/product="truncated B7-2 protein"	
	/protein_id="AAPI1298.1"	
	/db_xref="GI:6572519"	
	/translation="MYRRTMELNLTLEFMTLLIXGASMSQAFENKTEGLPCHFTN	
	SQVTSDELVEWQDDKLVLEIRGENPQNVHRTKGRISPKDWMTRLEHNIQ	
	KDGLVQCFVHNGKPGVLPMHOMNSDLSVLANFSQPELMVTSNTESSGIIINTCSS	
	IOGPEPKEMVEFLVTKENSTKYDYVMKSSQNNVLELVNVSISLSEFVPSASVSIIC	
	VLOLESKRLPSLPYNIETNKVERKESEQTKERVRYHETERSEDAQCVNISKASGNS	
	-TTPF"	
	850. 1795	
	/gene="CD86"	
Query Match	71.3%: Score 704; DB 4; Length 1795;	
Best Local Similarity	100.0%: Pred. No. 0;	
Matches	704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
1	ATGTATCTCAGATGCACTATGGAAGTGAATTAACATTTCTTTGTGATGACCCCTCTGCTC	60

Db	TT	66
Qy	TATGTGTCCTGCTTCATGTAGAGTCAAGCATATTTTCAACAAGACTGGAACTGCCATGC	120
Db	TATGTGTCCTGCTTCATGTAGAGTCAAGCATATTTTCAACAAGACTGGAACTGCCATGC	126
Qy	CATTTTACAATTTCTCAAAAACATTAAGCCGTGGATGATGTTTGGCAGAGACC	180
Db	CATTTTACAATTTCTCAAAAACATTAAGCCGTGGATGATGTTTGGCAGAGACC	186
Qy	GATTAAGCTGCTTCTGTACAGGCTATACAGAGGCAAGAAAGAAACCTCAAAATGTCATCC	240
Db	GATTAAGCTGCTTCTGTACAGGCTATACAGAGGCAAGAAAGAAACCTCAAAATGTCATCC	246
Qy	AAGTATTAAGGGCCGCAAGCTTTGACAAAGCAATTTGGACCTCGAGCTCATTAATTT	300
Db	AAGTATTAAGGGCCGCAAGCTTTGACAAAGCAATTTGGACCTCGAGCTCATTAATTT	306
Qy	CAGATCAAGGACCAAGGCTTGTATCATCATGTTTCATCATTAAGGGCCCAAGGACCTC	360
Db	CAGATCAAGGACCAAGGCTTGTATCATCATGTTTCATCATTAAGGGCCCAAGGACCTC	366
Qy	GTTCCTCATGACCAAGTGAATTTGTGACCTATGAGCTTTGCTAATTTGACCTGACCTGAA	420
Db	GTTCCTCATGACCAAGTGAATTTGTGACCTATGAGCTTTGCTAATTTGACCTGACCTGAA	426
Qy	ATATGCTTACTCTTATATGAGACAGAAATTTGGCATCATTAATTTGACCTGCTCATCC	480
Db	ATATGCTTACTCTTATATGAGACAGAAATTTGGCATCATTAATTTGACCTGCTCATCC	486
Qy	ATACAAGTTTACCACAGAACCCAGAGATGATTTTTTGTGTAAGAAACCGAGATTTCAAGT	540
Db	ATACAAGTTTACCACAGAACCCAGAGATGATTTTTTGTGTAAGAAACCGAGATTTCAAGT	546
Qy	ACTAAGTATGATCTGATGAGAAATTCGCAAAATATGTCACAGAACTGACAACTG	600
Db	ACTAAGTATGATCTGATGAGAAATTCGCAAAATATGTCACAGAACTGACAACTG	606
Qy	TCTATCAGCTTGTCTTCTTCAGTCCCTGGAAGCAAGCAATGTCTGTGTCTG	660
Db	TCTATCAGCTTGTCTTCTTCAGTCCCTGGAAGCAAGCAATGTCTGTGTCTG	666
Qy	CAATTTAGTCATGAAGCTTCCCTCCCTACCTATATATATGA	704
Db	CAATTTAGTCATGAAGCTTCCCTCCCTACCTATATATATGA	710
RESULT 3		
AF157827	1138 bp	mRNA linear
LOCUS	AF157827	
DEFINITION	Felis catus CD86 antigen (CD86) mRNA, complete cds.	
ACCESSION	AF157827	
VERSION	AF157827.1	GI:5381423
KEYWORDS		
SOURCE	Felis catus.	
ORGANISM	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.	
REFERENCE	1 (bases 1 to 1138)	
AUTHORS	Choi, I. S., Hash, S. M., Winslow, B. J. and Collisson, E. W.	
TITLE	Sequence analyses of feline B7 costimulatory molecules	
JOURNAL	Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)	
MEDLINE	20180222	
PUBMED	10713336	
REFERENCE	2 (bases 1 to 1138)	
AUTHORS	Choi, I. S., Hash, S., Winslow, B. J. and Collisson, E. W.	
TITLE	Direct Submision	
JOURNAL	Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M University, Bldg. 1197 Rm. 222, College Station, TX 77843, USA	
FEATURES		
source	1. 1138	location/Qualifiers
	/organism="Felis catus"	

gene
CDS
/db_xref="taxon:3685"
1..1138
/gene="CD86"
63..1052
/gene="CD86"
/note="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"
/protein_id="A042974.1"
/db_xref="GI:5381424"
/translation="MGICDSTMGISHTLLVMALLSGVSSMSKSOAYFNKTGELPCHEFT
NSONISDELVEFWODQDKLVLEYIFRGKRNPNVHLKYGRTSFDKDNWTLRLHNVQ
IKDGTGHCFTIHYKPGKGLVPMHOMSSDLVLANFSQPELTYSNRTENSGIILNLC
SIQGYPEPKEMYFQNLNTENSTTKYDVTMKSQNNVELYVNSISLPEVPEAHNVSVF
CALKLETLMLSLPENIDAPRKDPDEQGHFLMIAVAVLVFVFCGWSFETLLRRK
KKQPSHECETIKRERESKQTERNRPVHYVPERSDAQCIVNLTASGDKNK"

BASE COUNT 358 a 245 c 246 g 289 t

ORIGIN

Query Match 6.2%; Score 61; DB 4; Length 1138;
Best Local Similarity 100.0%; Pred. No. 4.9e-23;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCATGAAGAGTCATGATTTTCAACAGACTGGAGAGCTGCCATGCTTTTACAA 130
|||||
Db 136 CTTCATGAAGAGTCATGATTTTCAACAGACTGGAGAGCTGCCATGCTTTTACAA 195
QY 131 A 131
|
Db 196 A 196

RESULT 4
AB030652
LOCUS AB030652 1270 bp mRNA linear MAM 01-MAR-2001
DEFINITION Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
complete cds.
ACCESSION AB030652
VERSION AB030652.1 GI:9796387
KEYWORDS B-lymphocyte activation antigen B7-2 (CD86).
SOURCE Felis catus peripheral blood mononuclear cell cDNA to mRNA.
ORGANISM Felis catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE
AUTHORS Nishimura, Y., Shimojima, M., Miyazawa, T., Sato, E., Nakamura, K.,
Izumiyama, Y., Ikeda, Y., Mikami, T. and Takahashi, E.
TITLE Molecular cloning of the cDNAs encoding the feline B-lymphocyte
activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
interact with human CTLA-4-Ig
JOURNAL Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
MEDLINE 20485322
REFERENCE 2 (bases 1 to 1270)
AUTHORS Nishimura, Y.
TITLE Direct Submission
JOURNAL Submitted (31-JUL-1999) Yoshihiro Nishimura, Faculty of Agriculture,
The University of Tokyo, Department of Veterinary Microbiology,
1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan
(E-mail: yorihiro@croccs.ocn.ne.jp, Tel: +81-3-5841-5396,
Fax: +81-3-5841-8184)
COMMENT Sequence updated (08-Jun-2000).

FEATURES
source
1..1270
/organism="Felis catus"
/db_xref="taxon:9685"
/cell_type="peripheral blood mononuclear cell"
1..1270
/gene="CD86"
240..1238
/gene="CD86"
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB1688.1"

/db_xref="GI:9796388"
/translation="MGICDSTMGISHTLLVMALLSGVSSMSKSOAYFNKTGELPCHEFT
NSONISDELVEFWODQDKLVLEYIFRGKRNPNVHLKYGRTSFDKDNWTLRLHNVQ
IKDGTGHCFTIHYKPGKGLVPMHOMSSDLVLANFSQPELTYSNRTENSGIILNLC
SIQGYPEPKEMYFQNLNTENSTTKYDVTMKSQNNVELYVNSISLPEVPEAHNVSVF
CALKLETLMLSLPENIDAPRKDPDEQGHFLMIAVAVLVFVFCGWSFETLLRRK
KKQPSHECETIKRERESKQTERNRPVHYVPERSDAQCIVNLTASGDKNSTTHF"

polya_signal
1245..1250
/gene="CD86"

BASE COUNT 378 a 281 c 260 g 351 t

ORIGIN

Query Match 6.2%; Score 61; DB 4; Length 1270;
Best Local Similarity 100.0%; Pred. No. 4.8e-23;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCATGAAGAGTCATGATTTTCAACAGACTGGAGAGCTGCCATGCTTTTACAA 130
|||||
Db 313 CTTCATGAAGAGTCATGATTTTCAACAGACTGGAGAGCTGCCATGCTTTTACAA 372
QY 131 A 131
|
Db 373 A 373

RESULT 5
AY007704
LOCUS AY007704 2830 bp mRNA linear MAM 03-OCT-2001
DEFINITION Felis catus CD86 (CD86) mRNA, complete cds.
ACCESSION AY007704
VERSION AY007704.1 GI:15418725
KEYWORDS
SOURCE Felis catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE
AUTHORS Yang, S., Sellins, K.S., Powell, T., Stoneman, E. and Slin, G.K.
TITLE Novel transcripts encoding secreted forms of feline CD80 and CD86
costimulatory molecules.
JOURNAL Vet. Immunol. Immunopathol. 81 (1-2), 15-21 (2001)
MEDLINE 21390213
PUBMED 11498243
REFERENCE 2 (bases 1 to 2830)
AUTHORS Yang, S.
TITLE Direct Submission
JOURNAL Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
Prospect Parkway, Ft Collins, CO 80525, USA
FEATURES location/Qualifiers
1..2830
/organism="Felis catus"
/db_xref="taxon:9685"
1..2830
/gene="CD86"
179..1177
/gene="CD86"
/note="CD28/CTLA4 counter receptor; B7-2 protein"
/codon_start=1
/product="CD86"
/protein_id="AAG33342.1"
/db_xref="GI:15418726"

BASE COUNT 877 a 570 c 586 g 797 t

ORIGIN

Query Match 6.2%; Score 61; DB 4; Length 2830;
Best Local Similarity 100.0%; Pred. No. 4.5e-23;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

AX027016	LOCUS	AX027016	994 bp	DNA	linear	PAT 16-SEP-2000
DEFINITION	Sequence 13 from Patent W000371102.					
ACCESSION	AX027016					
VERSION	AX027016.1	GI:10188045				
KEYWORDS						
SOURCE						
ORGANISM	pig.					
	Sus scrofa					
	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;					
	Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.					
REFERENCE	1 (bases 1 to 994)					
AUTHORS	Rogers,N.J., Dorling,A. and Lechler,R.I.					
TITLE	Immunosuppression					
JOURNAL	Patent: WO 0037102-A 13 29-JUN-2000;					
	ROGERS,NICHOLA JANE (GB) ; DORLING ANTHONY (GB) ; ML LAB PLC (GB) ;					
	LECHLER ROBERT IAN (GB)					
FEATURES	Location/Qualifiers					
source	1..994					
	/organism="Sus scrofa"					
	/db_xref="taxon:9823"					
BASE COUNT	302 a 241 c 202 g 249 t					
ORIGIN						
Query Match	4.2%; Score 41; DB 6; Length 994;					
Best Local Similarity	100.0%; Pred. No. 1,7e-11;					
Matches	41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;					
QY	800	TACACTAGGAAAGAAAGAAAGCAGCCCTGGCCCTCT	840			
Db	788	TAACTAGGAAAGAAAGAAAGCAGCCCTGGCCCTCT	828			
RESULT 8						
LOCUS	AX002781	738 bp	DNA	linear	PAT 21-AUG-2000	
DEFINITION	Sequence 4 from Patent W09855607.					
ACCESSION	AX002781					
VERSION	AX002781.1	GI:9885109				
KEYWORDS						
SOURCE						
ORGANISM	synthetic construct.					
	artificial sequences.					
REFERENCE	1 (bases 1 to 738)					
AUTHORS	Bebington,C.R. and Carroll,M.W.					
TITLE	Vector					
JOURNAL	Patent: WO 9855607-A 4 10-DEC-1998;					
	BEBBINGTON CHRISTOPHER ROBERT (GB) ; CARROLL MILES WILLIAM (GB)					
FEATURES	Location/Qualifiers					
source	1..738					
	/organism="synthetic construct"					
	/db_xref="taxon:32630"					
	1..>738					
	/note="unnamed protein product"					
	/codon_start=1					
	/transl_table=1					
	/protein_id="CAC04193.1"					
	/db_xref="GI:9885110"					
	/translation="MGLSNLIFWAFILGSAPIKQAYFENETADLPQCFANSONSL					
	SELVFWQDQENIVLNEYLYLKEKEFDSVHSKMGRTFSDSWTLRLANQIKKGLY					
	QCIIHKKPFGMIRIHOMNSLSVLANSQPEIVISNTIENVTINLTGSSIHGYP					
	KRMVLLRTKNSLTEDYGIQKSDQNTDTELYDVISLSVSFPDYSMTITFCILETDK					
	TRLLSSPFSLELDDPPPPHIDPGGGS"					
BASE COUNT	215 a 168 c 148 g 207 t					
ORIGIN						
Query Match	3.3%; Score 33; DB 6; Length 738;					
Best Local Similarity	100.0%; Pred. No. 6,9e-07;					
Matches	33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;					
QY	391	TCAGTGTCTTCTACTCTCAGTCACCTGAATA	423			
Db	373	TCAGTGTCTTCTACTCTCAGTCACCTGAATA	405			

RESULT 9
AX149548 738 bp DNA linear PAT 08-JUN-2001
LOCUS Sequence 9 from Patent WO0136486.
DEFINITION AX149548
ACCESSION AX149548
VERSION AX149548.1 GI:14347987
KEYWORDS
SOURCE synthetic construct.
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 738)
AUTHORS Kingsman,A.O., Kingsman,S.M., Bebbington,C.R., Carroll,M.W.,
Ellard,F.M. and Myers,K.A.
TITLE Antibodies Patent: WO 0136486-A 9 25-MAY-2001;
JOURNAL Oxford Biomedica (UK) Limited (GB)
FEATURES Location/Qualifiers
source 1..738
/organism="synthetic construct"
/db_xref="taxon:32630"
/note="B7-2.514.1"
BASE COUNT 215 a 168 c 148 g 207 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 738;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 423
Db 373 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 405
|||||
RESULT 10
AR147737 751 bp DNA linear PAT 08-AUG-2001
LOCUS Sequence 34 from patent US 6225042.
DEFINITION AR147737
ACCESSION AR147737
VERSION AR147737.1 GI:15111827
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.
REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6225042-A 34 01-MAY-2001;
FEATURES Location/Qualifiers
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 423
Db 397 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 429
|||||
RESULT 11
AR159759 751 bp DNA linear PAT 17-OCT-2001
LOCUS Sequence 34 from patent US 6251627.
DEFINITION AR159759
ACCESSION AR159759
VERSION AR159759.1 GI:16222532
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6251627-A 34 26-JUN-2001;
FEATURES Location/Qualifiers
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 423
Db 397 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 429
|||||
RESULT 12
AR160451 751 bp DNA linear PAT 17-OCT-2001
LOCUS Sequence 34 from patent US 6255073.
DEFINITION AR160451
ACCESSION AR160451
VERSION AR160451.1 GI:16224368
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.
REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6255073-A 34 03-JUL-2001;
FEATURES Location/Qualifiers
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 423
Db 397 TCAGTGGCTGCTACTGCTCAGTCACTGAATA 429
|||||
RESULT 13
AR202407 751 bp DNA linear PAT 20-APR-2002
LOCUS Sequence 34 from patent US 6362001.
DEFINITION AR202407
ACCESSION AR202407
VERSION AR202407.1 GI:20256946
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.
REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Method for producing a synthetic antigen presenting transformed
JOURNAL Drosophila cell
Patent: US 6362001-A 34 26-MAR-2002;
FEATURES Location/Qualifiers
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

GenCore version 5.1.4_P5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:04 ; Search time 271.953 Seconds
(without alignments)
8173.182 Million cell updates/sec

Title: US-09-646-561-9

Perfect score: 987
Sequence: 1 atgtatctcagatgcactat.....aaacagctactacacagttt 987

Scoring table: OLIGO-MUC
Gapop 60.0, Gapext 60.0

Searched: 2185239 seqs, 112599159 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Listing first 100 summaries

Database :

N.Geneseq_101002:*

- 1: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT:*
- 2: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
- 3: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT:*
- 4: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT:*
- 5: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT:*
- 6: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
- 7: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT:*
- 8: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT:*
- 9: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT:*
- 10: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT:*
- 11: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT:*
- 12: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT:*
- 13: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT:*
- 14: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT:*
- 15: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT:*
- 16: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT:*
- 17: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT:*
- 18: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT:*
- 19: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT:*
- 20: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT:*
- 21: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
- 22: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT:*
- 23: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT:*
- 24: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	987	100.0	987	20	AAZ27915
2	987	100.0	987	20	AAZ27916
3	987	100.0	1897	20	AAZ27913
4	987	100.0	1897	20	AAZ27914
5	704	71.3	840	20	AAZ27923
6	704	71.3	840	20	AAZ27924
7	704	71.3	1795	20	AAZ27921
8	704	71.3	1795	20	AAZ27922
9	61	6.2	996	20	AAZ27931

C	10	61	6.2	996	20	AAZ27932
C	11	61	6.2	1080	21	AAZ34838
C	12	61	6.2	1080	21	AAZ34785
C	13	61	6.2	1080	24	AAZ46840
C	14	61	6.2	1080	24	AAZ48230
C	15	61	6.2	2830	20	AAZ27929
C	16	61	6.2	2830	20	AAZ27930
C	17	56	5.7	509	20	AAZ27933
C	18	56	5.7	509	20	AAZ27934
C	19	44	4.5	764	18	AAZ62939
C	20	44	4.5	1050	21	AAZ49661
C	21	42	4.3	359	20	AAZ27935
C	22	42	4.3	359	20	AAZ27936
C	23	33	3.3	738	20	AAZ68023
C	24	33	3.3	738	22	AAZ689731
C	25	33	3.3	831	19	AAZ03230
C	26	33	3.3	972	20	AAZ63208
C	27	33	3.3	972	24	AAZ25510
C	28	33	3.3	1120	16	AAZ081351
C	29	33	3.3	1120	18	AAZ49181
C	30	33	3.3	1120	20	AAZ55784
C	31	33	3.3	1120	21	AAZ64049
C	32	33	3.3	1120	24	AAZ27968
C	33	33	3.3	1424	21	AAZ29321
C	34	33	3.3	1424	24	AAZ64193
C	35	33	3.3	1424	24	AAZ64309
C	36	33	3.3	1424	24	AAZ64678
C	37	33	3.3	1428	16	AAZ085873
C	38	33	3.3	2205	22	AAZ72616
C	39	32	3.2	330	18	AAZ49197
C	40	32	3.2	330	21	AAZ68408
C	41	32	3.2	403	20	AAZ89569
C	42	27	2.7	28	24	AAZ66513
C	43	25	2.5	25	21	AAZ34863
C	44	25	2.5	25	21	AAZ34815
C	45	25	2.5	25	21	AAZ34815
C	46	25	2.5	25	24	AAZ46866
C	47	25	2.5	25	24	AAZ46870
C	48	25	2.5	25	24	AAZ67572
C	49	25	2.5	25	24	AAZ67574
C	50	25	2.5	35	20	AAZ27963
C	51	24	2.4	54	19	AAZ33748
C	52	24	2.4	54	19	AAZ33751
C	53	24	2.4	62	16	AAZ081391
C	54	24	2.4	62	18	AAZ49605
C	55	24	2.4	62	18	AAZ49605
C	56	24	2.4	62	21	AAZ084089
C	57	24	2.4	63	16	AAZ081390
C	58	24	2.4	63	18	AAZ49604
C	59	24	2.4	63	21	AAZ084088
C	60	24	2.4	306	18	AAZ49198
C	61	24	2.4	306	21	AAZ084083
C	62	21	2.1	135	21	AAZ38015
C	63	21	2.1	210	16	AAZ01038
C	64	21	2.1	505	22	AAZ07297
C	65	21	2.1	582	22	AAZ11307
C	66	21	2.1	942	19	AAZ99926
C	67	21	2.1	2358	24	AAZ18743
C	68	21	2.1	2577	20	AAZ35740
C	69	21	2.1	2599	21	AAZ64367
C	70	21	2.1	2880	22	AAZ26889
C	71	21	2.1	2954	22	AAZ14556
C	72	21	2.1	3013	22	AAZ06594
C	73	21	2.1	3032	22	AAZ98711
C	74	21	2.1	3032	22	AAZ22857
C	75	21	2.1	3088	20	AAZ35741
C	76	21	2.1	3236	24	AAZ99298
C	77	21	2.1	3316	21	AAZ76526
C	78	21	2.1	3336	22	AAZ74445
C	79	21	2.1	3405	22	AAZ22621
C	80	21	2.1	3677	22	AAZ09142
C	81	20	2.0	20	20	AAZ27949
C	82	20	2.0	20	22	AAZ32989

Complementary str
Feline CD86 (B7-2)
Cat CD86 (B7-2) cD
Feline CD86 coding
CDNA encoding feli
Feline B7-2 protei
Feline B7-2 gene c
Feline B7-2 protei
Feline B7-2 gene (Chimeric human/por
Pig costimulatory
Feline B7-2 protei
Feline B7-2 gene (Human B7-2 extrac
Nucleotide sequenc
DNA encoding CD86
B7-2 CDNA. Homo s
Human co-stimulat
Human B lymphocyte
Human B lymphocyte
Human B7-2 antigen
Human B lymphocyte
Human B7-2 CDNA.
Human B7-2 CDNA.
Human CDNA differe
Breast cancer rela
Stomach cancer rel
B70 type B antigen
Human cervical can
Human B lymphocyte
Human B7-2 variabl
EST clone CR306.
Human gene specifi
Feline CD86 CDNA 5
Cat CD86 119and cd
Cat CD86 119and cd
Feline CD86 PCR pr
Feline CD86 PCR pr
Feline CD86 nested
Feline CD80 nested
Canine B7-25 DNA a
Ig-like V domain a
Ig-like V domain a
Reverse primer for
Human B7-2 Ig cons
Human B7-219c doma
Reverse primer for
Onco M gene signal
Human B lymphocyte
Human B7-2 constan
Jurkat cell CDNA c
Human B7-2 exon 5.
Drosophila melanog
Human CDNA clone (K
Cat CD86 coding se
CDNA encoding low-
CDNA encoding a pr
Human vesicle asso
Human CDNA encodin
Human CDNA sequenc
Human CDNA seq ID
Human EST-derived
Human CDNA encodin
CDNA encoding a pr
CDNA encoding the h
Human ORF2081
Human PR014 nucle
Human CDNA encodin
Human S17 protein
Feline B7-2 gene s
Human B7-2 antisen

AAZ27916/c
 ID AAZ27916 standard; DNA; 987 BP.
 AC AAZ27916;
 XX
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Complementary strand of canine B7-2 coding sequence.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Canis familiaris.
 XX
 PN WO947558-A2.
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI: 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating, e.g. autoimmune and atopic diseases -
 XX
 PS Claim 1; Page 103-104; 148bp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 XX
 SQ Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;
 Query Match 100.0%; Score 987; DB 20; Length 987;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 987; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 687 CAGATCAAGACAAAGGGCTGTATCAATGTTCTGTCATCATAAAGGCCCAAGGACTC 628
 QY 361 GTTCCCATGCACCCAGATGAATTTGACCTATCACTGCTTGTACTACAGCAACCGAA 420
 DB 627 GTTCCCATGCACCCAGATGAATTTGACCTATCACTGCTTGTACTACAGCAACCGAA 568
 QY 421 ATAAATGTAACCTCTAATAGAACAAATTTCTGGCATCATAAATTTGACCTGCTCAATC 480
 DB 567 ATAAATGTAACCTCTAATAGAACAAATTTCTGGCATCATAAATTTGACCTGCTCAATC 508
 QY 481 ATCAAGGTTACCCAGAACCCAGAGAGATGATTTTGTGTAATAACCGAATTCAGT 540
 DB 507 ATCAAGGTTACCCAGAACCCAGAGAGATGATTTTGTGTAATAACCGAATTCAGT 448
 QY 541 ACTAGTATGATCTGTCATGATGAAGAAATCTGAATAATATGACAGAACTTACAGGT 600
 DB 447 ACTAGTATGATCTGTCATGATGAAGAAATCTGAATAATATGACAGAACTTACAGGT 388
 QY 601 TCTATCAGCTTGTCCTTCTCAGTCCCTGAGCAAGCAATGTGACATCTTCTGTCTCTG 660
 DB 387 TCTATCAGCTTGTCCTTCTCAGTCCCTGAGCAAGCAATGTGACATCTTCTGTCTCTG 328
 QY 661 CACTTGAGTCAATGACCTTCCCTCCCTACCTTATATATAGATGACATACGAACCC 720
 DB 327 CACTTGAGTCAATGACCTTCCCTCCCTACCTTATATATAGATGACATACGAACCC 268
 QY 721 ACCCGTATGAGGACCAATCCCTGATGAGGCTGCTGATGATGTTGATTTTG 780
 DB 267 ACCCGTATGAGGACCAATCCCTGATGAGGCTGCTGATGATGTTGATTTTG 208
 QY 781 TGTGGATGCTGTTCTTCTTCTAAGCAAGAAAGAAAGCAAGCAAGCAAGCAAGCAAG 840
 DB 207 TGTGGATGCTGTTCTTCTTCTAAGCAAGAAAGAAAGCAAGCAAGCAAGCAAGCAAG 148
 QY 841 CATGAATGGAACCAACAAAGTGGAGAGAAAGAAAGTGGAGAGCAAGCAAGCAAGCAAG 900
 DB 147 CATGAATGGAACCAACAAAGTGGAGAGAAAGAAAGTGGAGAGCAAGCAAGCAAGCAAG 88
 QY 901 CGGTACCATGAACGAAAGATCTGATGAAGCCAGTGTGTTACATTTGCGAAGACCT 960
 DB 87 CGGTACCATGAACGAAAGATCTGATGAAGCCAGTGTGTTACATTTGCGAAGACCT 28
 QY 961 TCAGGCGACACAGTACTACACAGTTT 987
 DB 27 TCAGGCGACACAGTACTACACAGTTT 1
 RESULT 3
 AAZ27913
 ID AAZ27913 standard; DNA; 1897 BP.
 XX
 AC AAZ27913;
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Canine B7-2 protein encoding DNA.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Canis familiaris.
 XX
 PN WO947558-A2.
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.

```

XX  Sim G, Yang S, Sellins KS;
PI  WPI: 1999-571822/48.
XX  P-PSDB: AAY41076.
DR  New Isolated B7 and CTLA4 nucleic acids, used to develop products for
XX  treating, e.g. autoimmune and atopic diseases
XX
XX  Claim 1: Page 97-99; 148pp; English.
XX
XX  The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC  encoding nucleic acid molecules from dogs and cats. The nucleic acid molecules
CC  expressed by standard recombinant methodology. The nucleic acid molecules
CC  and the encoded proteins can be used for preventing or treating diseases,
CC  e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC  development, graft rejection, inflammation, arthritic and atopic diseases
CC  such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC  cats, cattle, sheep or pets. The products can also be used for detection,
CC  diagnosis and drug screening.
XX
XX  Sequence 1897 BP; 585 A; 400 C; 383 G; 529 T; 0 other;
SQ
Query Match      100.0%; Score 987; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 987; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY  1  ATGCTATTCACATGACATGATGAGTGAATGATATTCCTCTTTGATGACCTGCTGCTC 60
DB  6  ATGATTCACATGACATGATGAGTGAATGATATTCCTCTTTGATGACCTGCTGCTC 65
OY  61  TATGCTGCTGCTTCCATGATGATGATGATGATGATGATGATGATGATGATGATGATG 120
DB  66  TATGCTGCTGCTTCCATGATGATGATGATGATGATGATGATGATGATGATGATGATG 125
OY  121  CATTTTAAATTCATCAATCAATCAATCAATCAATCAATCAATCAATCAATCAATCAAT 180
DB  126  CATTTTAAATTCATCAATCAATCAATCAATCAATCAATCAATCAATCAATCAATCAAT 185
OY  181  GATAAGCTGCTTCTGATGAGCTATGAGAGGCAAGAGCAAGCAAGCAAGCAAGCAAG 240
DB  186  GATAAGCTGCTTCTGATGAGCTATGAGAGGCAAGAGCAAGCAAGCAAGCAAGCAAG 245
OY  241  AAGCTTAAGGCGCCGCAACAGCTTTCACAAAGCAATGACCTGACATCCATCAATAT 300
DB  246  AAGCTTAAGGCGCCGCAACAGCTTTCACAAAGCAATGACCTGACATCCATCAATAT 305
OY  301  CAGATCAAGGACAGGCGCTTGTATCAATGTTTCTTCATCAATAAAGGCGCCCAAG 360
DB  306  CAGATCAAGGACAGGCGCTTGTATCAATGTTTCTTCATCAATAAAGGCGCCCAAG 365
OY  361  GTTCCATGCGCCAGCAATGATGATGATGATGATGATGATGATGATGATGATGATGAT 420
DB  366  GTTCCATGCGCCAGCAATGATGATGATGATGATGATGATGATGATGATGATGATGAT 425
OY  421  ATAATGTAATCTTAATAGAAAGAAATCTGGCATCAATAAATTTGACCTGCTATCC 480
DB  426  ATAATGTAATCTTAATAGAAAGAAATCTGGCATCAATAAATTTGACCTGCTATCC 485
OY  481  ATACAAGTTTACCAGAACCCAGAGAGATGATTTTTTGGTAAACCGAGATTCAGT 540
DB  486  ATACAAGTTTACCAGAACCCAGAGAGATGATTTTTTGGTAAACCGAGATTCAGT 545
OY  541  ACTAAGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 600
DB  546  ACTAAGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 605
OY  601  TGTATAGCTTGTCTTCTGATGCTTCTGATGCTTCTGATGCTTCTGATGCTTCTG 660
DB  606  TGTATAGCTTGTCTTCTGATGCTTCTGATGCTTCTGATGCTTCTGATGCTTCTG 665
OY  661  CAACCTTGAGTCAATGAGAGCTTCCCTGCTACCTTATATATATGATGACATAGAAC 720
DB  666  CAACCTTGAGTCAATGAGAGCTTCCCTGCTACCTTATATATATGATGACATAGAAC 725

```

```

DB  666  CAACCTTGAGTCAATGAGAGCTTCCCTGCTACCTTATATATATGATGACATAGAAC 725
OY  721  ACCCTGATGAGAGACACATCCTCTGATTCGCGCTCTGCTTGAATGTTGTTGTTG 780
DB  726  ACCCTGATGAGAGACACATCCTCTGATTCGCGCTCTGCTTGAATGTTGTTGTTG 785
OY  781  TGTGAGATGCTGCTTCTTCTTAACACTAAGAAAAAGAAAGAAAGAAAGAAAGAA 840
DB  786  TGTGAGATGCTGCTTCTTCTTAACACTAAGAAAAAGAAAGAAAGAAAGAAAGAA 845
OY  841  CATGATGCTGAACCAACCAAGTGGAGAGAAAGAAAGTGGAGAGCAACCAAGAAAG 900
DB  846  CATGATGCTGAACCAACCAAGTGGAGAGAAAGAAAGTGGAGAGCAACCAAGAAAG 905
OY  901  CGGTACCTTGAAGGAAAGATCTGATGAAGCCGATGCTTGAATTTGGAAGACGCT 960
DB  906  CGGTACCTTGAAGGAAAGATCTGATGAAGCCGATGCTTGAATTTGGAAGACGCT 965
OY  961  TCAGGCGACACAGTACTACACACTT 987
DB  966  TCAGGCGACACAGTACTACACACTT 992

```

```

RESULT 4
AAZ27914/C
ID  AAZ27914 standard; DNA; 1897 BP.
XX
XX  AAZ27914;
AC  20-DEC-1999 (first entry)
XX
XX  Canine B7-2 gene complementary DNA sequence.
DE
XX  B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX  allergic reaction; infectious disease; tumor development; canine;
XX  graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX  Canis familiaris.
XX  WO99/47558-A2.
XX  23-SEP-1999.
XX
XX  19-MAR-1999; 99WO-US06187.
XX  PF
XX  19-MAR-1998; 98US-0078765.
XX  PR
XX  17-APR-1998; 98US-0062597.
XX
XX  (HESK-) HESKA CORP.
XX
XX  Sim G, Yang S, Sellins KS;
PI  WPI: 1999-571822/48.
XX
XX  New Isolated B7 and CTLA4 nucleic acids, used to develop products for
XX  treating, e.g. autoimmune and atopic diseases
XX
XX  Claim 1: Page 101-102; 148pp; English.
XX
XX  The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC  encoding nucleic acid molecules from dogs and cats. The proteins can be
CC  expressed by standard recombinant methodology. The nucleic acid molecules
CC  and the encoded proteins can be used for preventing or treating diseases,
CC  e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC  development, graft rejection, inflammation, arthritic and atopic diseases
CC  such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC  cats, cattle, sheep or pets. The products can also be used for detection,
CC  diagnosis and drug screening.
XX
XX  Sequence 1897 BP; 529 A; 383 C; 400 G; 585 T; 0 other;
SQ
Query Match      100.0%; Score 987; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;

```


Db 301 CAGATCAAGACAGGCTTGATCAATGTTGCTTATCATTAAGGCCCAAGAGACTC 360
 Qy 361 GTTCCCATGCACACAGATGAATTCGACCTATACAGTGTGCTTAACCTGACCAACTGAA 420
 Db 361 GTTCCCATGCACACAGATGAATTCGACCTATACAGTGTGCTTAACCTGACCAACTGAA 420
 Qy 421 ATATGATGTAAGTCTTAATAGAACAGAAATTCGTGACATCAATTTGACCTGCTCATCC 480
 Db 421 ATAAAGTGAACCTCTTAATAGAACAGAAATTCGTGACATCAATTTGACCTGCTCATCC 480
 Qy 481 ATACAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCGCAATTCAGT 540
 Db 481 ATACAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCGCAATTCAGT 540
 Qy 541 ACTAAGATGATGATCTGATGATGAAGAAATCTCAAAATATGTCACAGAACTCTACAGCTT 600
 Db 541 ACTAAGATGATGATCTGATGATGAAGAAATCTCAAAATATGTCACAGAACTCTACAGCTT 600
 Qy 601 TCTATCAGCTTGTCTCTTCAGTCCCTGACGACGATGTGACATCTTGTGTCTG 660
 Db 601 TCTATCAGCTTGTCTCTTCAGTCCCTGACGACGATGTGACATCTTGTGTCTG 660
 Qy 661 CAACCTTGAGTCAATGAAAGCTTCCCTCCCTACCTTATATATATAGA 704
 Db 661 CAACCTTGAGTCAATGAAAGCTTCCCTCCCTACCTTATATATATAGA 704

RESULT 6
 AA227924/C
 ID AA227924 standard; DNA; 840 BP.

AA227924;

20-DEC-1999 (first entry)

Complementary strand of canine B7-2S coding sequence.

B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; canine;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Canis familiaris.

MO9947558-A2.

23-SEP-1999.

19-MAR-1999; 99WO-US06187.

19-MAR-1998; 98US-0078765.

17-APR-1998; 98US-0062397.

(HESKA -) HESKA CORP.

Slim G, Yang S, Sellins KS;

WPI; 1999-571822/48.

New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g. autoimmune and atopic diseases

Claim 1; Page 115; 148pp; English.

The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 encoding nucleic acid molecules from dogs and cats. The proteins can be
 expressed by standard recombinant methodology. The nucleic acid molecules
 and the encoded proteins can be used for preventing or treating diseases,
 e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 development, graft rejection, inflammation, arthritis and atopic diseases
 such as atopic dermatitis. They can be used in mammals such humans, dogs,
 cats, cattle, sheep or pets. The products can also be used for detection,
 diagnosis and drug screening.

SQ Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;

Query Match 71.3%; Score 704; DB 20; Length 840;
 Best Local Similarity 100.0%; Pred. No. 0; Mismatches 0; Gaps 0;
 Matches 704; Conservative 0; Indels 0;

Qy 1 ATGATCTCAGATGCATATAGAACTGAATTAACATTCCTCTTTGTGATGACCCCTGCTC 60
 Db 840 ATGATCTCAGATGCATATAGAACTGAATTAACATTCCTCTTTGTGATGACCCCTGCTC 781
 Qy 61 TATGCTGCTCTCCATGAGAGTCAAGCATATTTCAACAAGCTGAGAACTGCTATCC 120
 Db 780 TATGCTGCTCTCCATGAGAGTCAAGCATATTTCAACAAGCTGAGAACTGCTATCC 721
 Qy 121 CATTTTACAATTCCTCAAAAACATTAACCTGATGAGTGTGATGTTTGGCAGACAG 180
 Db 720 CATTTTACAATTCCTCAAAAACATTAACCTGATGAGTGTGATGTTTGGCAGACAG 661
 Qy 181 GATTAAGCTGTTCTGTACAGAGTATACAGAGGCAAGAACCCCTCAAAATGTTCAATCCG 240
 Db 660 GATTAAGCTGTTCTGTACAGAGTATACAGAGGCAAGAACCCCTCAAAATGTTCAATCCG 601
 Qy 241 AAGTATTAAGGCGCGCAAGCTTTGACAAAGCAATTTGACCCCTGAGATCCTATATAT 300
 Db 600 AAGTATTAAGGCGCGCAAGCTTTGACAAAGCAATTTGACCCCTGAGATCCTATATAT 541
 Qy 301 CAGATCAAGGACAAAGGCTTGTATCAATGTTGCTTATCATATTAAGGCGCAAGAGACTC 360
 Db 540 CAGATCAAGGACAAAGGCTTGTATCAATGTTGCTTATCATATTAAGGCGCAAGAGACTC 481
 Qy 361 GTTCCCATGCACACAGATGAATTCGACCTATACAGTCTTGTCTTAACCTGCACTGAA 420
 Db 480 GTTCCCATGCACACAGATGAATTCGACCTATACAGTCTTGTCTTAACCTGCACTGAA 421
 Qy 421 ATATGATGTAAGTCTTAATAGAACAGAAATTCGACATATTAATTTGACCTGCTCATCC 480
 Db 420 ATATGATGTAAGTCTTAATAGAACAGAAATTCGACATATTAATTTGACCTGCTCATCC 361
 Qy 481 ATCAAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCCAGAAATTCAGT 540
 Db 360 ATCAAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCCAGAAATTCAGT 301
 Qy 541 ACTAAGTATGATCTGTCATGAAGAATCTCAAAATATGTCACAGAACTCTACAGCTT 600
 Db 300 ACTAAGTATGATCTGTCATGAAGAATCTCAAAATATGTCACAGAACTCTACAGCTT 241
 Qy 601 TCTATCAGCTTGTCTCTTCAGTCCCTGACGACGATGTGACATCTTGTGTCTG 660
 Db 240 TCTATCAGCTTGTCTCTTCAGTCCCTGACGACGATGTGACATCTTGTGTCTG 181
 Qy 661 CAACCTTGAGTCAATGAAAGCTTCCCTCCCTACCTTATATATATAGA 704
 Db 180 CAACCTTGAGTCAATGAAAGCTTCCCTCCCTACCTTATATATATAGA 137

RESULT 7
 AA227921
 ID AA227921 standard; DNA; 1795 BP.

AA227921;

20-DEC-1999 (first entry)

Canine B7-2S protein encoding DNA.

B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; canine;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Canis familiaris.

MO9947558-A2.


```

PD 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS.
XX
XX WPI; 1999-571822/48.
DR P-PSDB; AAY41078.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 109-111; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritis and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;
XX
XX Query Match 71.3%; Score 704; DB 20; Length 1795;
XX Best Local Similarity 100.0%; Pred. No. 0;
XX Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 ATGTATCTAGATGCACTATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 60
XX |||||||
XX DB 7 ATGTATCTAGATGCACTATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 66
XX
XX 61 TATGTCGTGCTTCATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 120
XX |||||||
XX DB 67 TATGTCGTGCTTCATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 126
XX
XX 121 CATTTTACAATTCGAAAACATTAAGCCCTGATGAGTTGGTGTGTTGGACGACAG 180
XX |||||||
XX DB 127 CATTTTACAATTCGAAAACATTAAGCCCTGATGAGTTGGTGTGTTGGACGACAG 186
XX
XX 181 GATAACTGTTGTGACGATATACAGAGGCAAGAACCCCTAAATGTTTCATGCG 240
XX |||||||
XX DB 187 GATAACTGTTGTGACGATATACAGAGGCAAGAACCCCTAAATGTTTCATGCG 246
XX
XX 241 AACTATAAGGGCGCACAAGCTTTGACAAAAGACAAATTTGACCTGAGCTCCATATAT 300
XX |||||||
XX DB 247 AACTATAAGGGCGCACAAGCTTTGACAAAAGACAAATTTGACCTGAGCTCCATATAT 306
XX
XX 301 CAGATCAAGGACAAAGGCTTTGATCAATGTTTCATCAATTAAGGCCCCAAGGACTC 360
XX |||||||
XX DB 307 CAGATCAAGGACAAAGGCTTTGATCAATGTTTCATCAATTAAGGCCCCAAGGACTC 366
XX
XX 361 GTTCCCATGACACAGATTTCTGACCTATGCTGCTTGTATGCTGACCTGAA 420
XX |||||||
XX DB 367 GTTCCCATGACACAGATTTCTGACCTATGCTGCTTGTATGCTGACCTGAA 426
XX
XX 421 ATAATGTAATCTCTAATAGAACAGAAATTCGCGATCATAAATTTGACCTGCTATCC 480
XX |||||||
XX DB 427 ATAATGTAATCTCTAATAGAACAGAAATTCGCGATCATAAATTTGACCTGCTATCC 486
XX
XX 481 ATACAAGTTTACCAGAACCCAGAGATGATTTTGGTAAAAACCGAATTCAGT 540
XX |||||||
XX DB 487 ATACAAGTTTACCAGAACCCAGAGATGATTTTGGTAAAAACCGAATTCAGT 546
XX
XX 541 ACRAAGATGATCTGTCATGAGAAATCTCAAAATTAATTCACAGACTCTCAAGCTT 600
XX |||||||

```

```

DB 547 ACTAGATATGACTGTCATGAGAAATCTCAAAATATGTCACAGACTCTCAACGTT 606
XX
XX 601 TCTATACAGCTTGTCTCTCTGCTGACCTGAAAGCAAGCAATGAGACATCTTGTGCTG 660
XX |||||||
XX DB 607 TCTATACAGCTTGTCTCTCTGCTGACCTGAAAGCAAGCAATGAGACATCTTGTGCTG 666
XX
XX 661 CAACCTTGAGTCAATGAGCTTCCCTCCCTACCTTATATATAGA 704
XX |||||||
XX DB 667 CAACCTTGAGTCAATGAGCTTCCCTCCCTACCTTATATATAGA 710
XX
XX RESULT 8
XX AA227922/C
XX ID AA227922 standard; DNA; 1795 BP.
XX
XX AA227922;
XX
XX 20-DEC-1999 (first entry)
XX
XX Canine B7-2S gene complementary DNA sequence.
XX
XX B7, CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; canine;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
XX
XX WO9947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 112-114; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritis and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other;
XX
XX Query Match 71.3%; Score 704; DB 20; Length 1795;
XX Best Local Similarity 100.0%; Pred. No. 0;
XX Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 ATGTATCTAGATGCACTATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 60
XX |||||||
XX DB 1789 ATGTATCTAGATGCACTATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 1730
XX
XX 61 TATGTCGTGCTTCATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 120
XX |||||||
XX DB 1729 TATGTCGTGCTTCATGACATGATTAACATTTCTTTGTATGACCTCTGCTC 1670
XX
XX 121 CATTTTACAATTCGAAAACATTAAGCCCTGATGAGTTGGTGTGTTGGACGACAG 180
XX |||||||

```

```

Db 1669 CATTTCACAAATTCCTCAAAACATAGACCTGATGATGTTGTTGTTGGCAGGACCAAG 1610
QY 181 GATAGCTGCTGCTGTGTAGCAGCTATATACAGAGGCAAGAACCCCTCAAAATGTTTCATGC 240
DB 1609 GATTAACCTGTTCTGTACAGCTATACAGAGGCAAGAACCCCTCAAAATGTTTCATGC 1550
QY 241 AAGTATTAAGGGCGGCGCAGCCTTTCACAAAGACATTTGGACCCCTAGACTCATTAATTT 300
DB 1549 AAGTATTAAGGGCGGCGCAGCCTTTCACAAAGACATTTGGACCCCTAGACTCATTAATTT 1490
QY 301 CAGATCAAGGACAGAGGCTTGTATCATATGTTCTGTATCATATTAAGGCGCCCAAGAGCTC 360
DB 1489 CAGATCAAGGACAGAGGCTTGTATCATATGTTCTGTATCATATTAAGGCGCCCAAGAGCTC 1430
QY 361 GTTCCCATGACACCATATGATTTGACCTATCATGCTGCTTACCTGATCAACCTGAA 420
DB 1429 GTTCCCATGACACCATATGATTTGACCTATCATGCTGCTTACCTGATCAACCTGAA 1370
QY 421 ATAATGTAAGTCTTAATAGAACAAATAATCTGSCATCATTAATTTGACCTGCTCATCC 480
DB 1369 ATAATGTAAGTCTTAATAGAACAAATAATCTGSCATCATTAATTTGACCTGCTCATCC 1310
QY 481 ATACAAGGTTACCCAGAACCCAGAGAGATGATTTTGTAAACCCGAGAAATTCAGT 540
DB 1309 ATACAAGGTTACCCAGAACCCAGAGAGATGATTTTGTAAACCCGAGAAATTCAGT 1250
QY 541 ACTAGTATGATCTGTATGATGACAAATCTCAAAATTAATGTCACAGAACTGTACAGCTT 600
DB 1249 ACTAGTATGATCTGTATGATGACAAATCTCAAAATTAATGTCACAGAACTGTACAGCTT 1190
QY 601 TCTATCAGCTTGTCTCTTCTGATCCCTGAGCAAGCAATGAGCATCTTCTGTCTCTG 660
DB 1189 TCTATCAGCTTGTCTCTTCTGATCCCTGAGCAAGCAATGAGCATCTTCTGTCTCTG 1130
QY 661 CACCTTGAGTCAATGACGCTTCCCTCCCTACCTTATATATAGA 704
DB 1129 CACCTTGAGTCAATGACGCTTCCCTCCCTACCTTATATATAGA 1086

```

```

RESULT 9
AA227931
ID AA227931 standard; DNA; 996 BP.
XX
AC AA227931;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein coding sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Fells catus.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
DR P-PSDB; AAY41079.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
treating, e.g. autoimmune and atopic diseases

```

```

XX
PS Claim 1; Page 123-124; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 996 BP; 319 A; 219 C; 203 G; 255 T; 0 other;
Query Match 6.2%; Score 61; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 6.7e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 71 CTTCATGAGAGTCAAGCATATTTTCACACAGACTGAGAACTGCCATGCCATTTACAA 130
DB 74 CTTCATGAGAGTCAAGCATATTTTCACACAGACTGAGAACTGCCATTTACAA 133
QY 131 A 131
DB 134 A 134
RESULT 10
AA227932/C
ID AA227932 standard; DNA; 996 BP.
XX
AC AA227932;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of feline B7-2 coding sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Fells catus.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
treating, e.g. autoimmune and atopic diseases
PS Claim 1; Page 124-125; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.

```

XX SQ Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;
 Query Match 6.2%; Score 61; DB 20; Length 996;
 Best Local Similarity 100.0%; Pred. No. 6.7e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 71 CTTCCATGAGAGTCAGCATATTTCACACAGACGAGAGCATGCCATTTTACAA 130
 |||
 Db 923 CTTCCATGAGAGTCAGCATATTTCACACAGACGAGAGCATGCCATTTTACAA 864

OY 131 A 131
 |
 Db 863 A 863

RESULT 11
 AA234838
 ID AA234838 standard; cDNA; 1080 BP.
 XX AA234838;
 AC
 DT 28-FEB-2000 (first entry)
 XX
 DE Feline CD86 (B7-2) cDNA.
 XX
 KM CD86; B7-2; feline; cat; recombinant virus; vaccine;
 KM immunomodulator; tumour; cancer; therapy; ss.
 XX
 OS Felis domesticus.
 XX
 FH Key Location/Qualifiers
 FT CDS 63..1052
 FT /*tag= a

XX WO9957295-A1.
 PN
 XX 11-NOV-1999.
 PD
 XX 30-APR-1999; 99WO-US09504.
 PF
 XX 01-MAY-1998; 98US-0071711.
 PR
 XX
 PA (SCHE) SCHERING-PLOUGH LTD.
 PA (SCHE) SCHERING-PLOUGH VETERINARY CORP.
 XX
 PI Winslow BJ, Cochran MD;
 XX
 DR WPI: 2000-062155/05.
 DR P-PSDB; AAY32285.
 XX
 PT Novel recombinant virus useful as immunomodulators, particularly in
 PT vaccines
 XX
 PS Disclosure; Fig 3A; 230pp; English.
 XX
 XX This is the nucleotide sequence of cDNA coding for feline CD86
 CC (B7-2). The cDNA was isolated from feline peripheral blood
 CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
 CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
 CC regulates T cell proliferation and cytokine release. The invention
 CC relates to a recombinant virus that contains at least one foreign
 CC nucleic acid, inserted into a nonessential genomic region, that
 CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
 CC immunogenic fragments, and is expressed when the recombinant virus
 CC is introduced into a suitable host. The invention also provides:
 CC a recombinant virus further comprising a foreign nucleic acid
 CC encoding an immunogen derived from a feline pathogen; recombinant
 CC viruses capable of enhancing an immune response to protect against
 CC disease; recombinant viruses expressing antisense sequences,
 CC capable of suppressing an immune response in a feline, e.g., for
 CC treatment of autoimmune disease or transplant rejection; and
 CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used

CC to reduce or eliminate a tumour in cats.
 XX SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 Query Match 6.2%; Score 61; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 6.7e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 71 CTTCCATGAGAGTCAGCATATTTCACACAGACGAGAGCATGCCATTTTACAA 130
 |||
 Db 136 CTTCCATGAGAGTCAGCATATTTCACACAGACGAGAGCATGCCATTTTACAA 195

OY 131 A 131
 |
 Db 196 A 196

RESULT 12
 AA234785
 ID AA234785 standard; cDNA; 1080 BP.
 XX AA234785;
 AC
 DT 15-FEB-2000 (first entry)
 XX
 DE Cat CD86 (B7-2) cDNA.
 XX
 KM CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
 KM FIV; feline leukemia virus; feline infectious peritonitis virus;
 KM feline panleukopenia virus; feline calicivirus; feline reovirus-3;
 KM feline rotavirus; feline coronavirus; feline syncytial virus;
 KM feline sarcoma virus; feline herpesvirus; feline Borna disease;
 KM rabies virus; chlamydia; Toxoplasmosis gondii; Dirofilaria immitis;
 KM parasite; autoimmune disease; transplant rejection; therapy; ss.
 XX
 OS Felis domesticus.
 XX
 FH Key Location/Qualifiers
 FT CDS 63..1055
 FT /*tag= a

XX WO9957271-A2.
 PN
 XX 11-NOV-1999.
 PD
 XX 30-APR-1999; 99WO-US09502.
 PF
 XX 01-MAY-1998; 98US-0071699.
 PR
 XX
 PA (TEXAS) TEXAS A & M SYSTEM.
 XX
 PI Collison EW, Hash SM, Choi I;
 XX
 DR WPI: 2000-052972/04.
 DR P-PSDB; AAY32278.
 XX
 PT Novel feline proteins used to produce feline vaccines which prevent
 PT infectious disease or to promote growth in homologous or heterologous
 PT species
 XX
 PS Claim 6; Fig 3A; 186pp; English.
 XX
 XX This is the nucleotide sequence of cDNA encoding feline CD86
 CC (B7-2) ligand (see AAY32278). It was obtained following RT-PCR of
 CC peripheral blood mononuclear cell mRNA and RACE-PCR. A vector
 CC comprising nucleic acid encoding feline CD86 ligand or feline
 CC soluble CD80 ligand is designated PST-2#19-2/011298 (ATCC 209821).
 CC The coexpression of CD86 with the costimulatory molecules CD28 (see
 CC AAY32279) and a tumour antigen or an antigen from a pathogenic
 CC organism has the ability to activate or enhance activation of
 CC T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has
 CC the ability to regulate activation of T-lymphocytes. The invention
 CC provides isolated nucleic acids encoding feline CD86 ligand,

CC feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4
 CC (CD152) receptor, as well as vectors comprising the nucleic acids,
 CC and polypeptides encoded by the nucleic acids. It also provides
 CC vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and
 CC further comprising immunogens derived from pathogens, especially
 CC feline immunodeficiency virus (FIV), feline leukaemia virus,
 CC feline infectious peritonitis virus, feline panleukopenia virus,
 CC feline calicivirus, feline reovirus-3, feline rotavirus, feline
 CC coronavirus, feline syncytial virus, feline sarcoma virus, feline
 CC herpesvirus, feline borna disease virus, rabies virus, chlamydia,
 CC toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial
 CC pathogen, or parasite (all claimed). Vaccines capable of
 CC enhancing an immune response, and vaccines capable of suppressing
 CC an immune response (suitable for treating an autoimmune disease
 CC or tissue or organ transplant rejection) are claimed. The
 CC nucleic acids may be used for gene therapy or antisense therapy.
 CC protocols.
 CC
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 6.2%; Score 61; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 6.7e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAGCTGCCATGCAATTTTACAA 130
 |||||
 Db 136 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAGCTGCCATGCAATTTTACAA 195
 QY 131 A 131
 |
 Db 196 A 196

RESULT 13

AAL46840
 ID AAL46840 standard; cDNA: 1080 BP.

AC AAL46840;

DT 08-AUG-2002 (first entry)

XX Feline CD86 coding sequence.

XX Cat; CD28; CD80; CTLA-4; CD86; immunogen; vaccine; viral infection;
 KW feline immunodeficiency disease; feline infectious peritonitis;
 KW feline leukaemia virus; cancer; degenerative disease; autoimmune disease;
 KW vituicide; immunomodulator; cytostatic; immunodeficiency; gene; ss.
 XX
 OS Fells catus.
 OS
 PN US2002051792-A1.
 PN
 PD 02-MAY-2002.
 PD
 PF 30-APR-1999; 99US-0303040.
 PF
 PR 01-MAY-1998; 98US-083870P.
 PR
 XX (WINSLOW) WINSLOW B J.
 PA (COCH/) COCHRAN M D.
 PA
 PI Winslow BJ, Cochran MD;
 PI
 XX WPI; 2002-415200/44.
 DR P-PSDB; AAO17734.
 DR
 XX New recombinant virus, useful for immunizing felines to prevent or
 PT treat feline immunodeficiency virus, comprises foreign nucleic acid
 PT encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
 PT CD86 or CTLA-4
 PT
 PS Disclosure; Fig 3; 77pp; English.

CC The present invention relates to a recombinant virus comprising at least
 CC one foreign nucleic acid encoding a protein selected from feline
 CC cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
 CC which is capable of expression when the virus is introduced into an
 CC appropriate host. The virus can be administered to the feline in order to
 CC elicit or enhance an immune response to prevent or treat feline
 CC immunodeficiency disease, feline leukaemia, feline infectious peritonitis,
 CC cancers, degenerative and autoimmune diseases and immunodeficiency. The
 CC present sequence is the coding sequence of a cytotoxic T lymphocyte
 CC accessory molecule described in the exemplification of the invention.
 CC
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 6.2%; Score 61; DB 24; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 6.7e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAGCTGCCATGCAATTTTACAA 130
 |||||
 Db 136 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAGCTGCCATGCAATTTTACAA 195
 QY 131 A 131
 |
 Db 196 A 196

RESULT 14

ABK48230
 ID ABK48230 standard; cDNA: 1080 BP.

AC ABK48230;

DT 02-JUL-2002 (first entry)

XX cDNA encoding feline CD86 protein.

XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
 KW feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
 KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
 KW organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
 KW feline leukaemia; FeLV; calicivirus; rotavirus; reovirus type 3;
 KW coronavirus; herpes; borna disease.
 XX
 OS Fells sp.
 OS
 FH Key
 FT Location/Qualifiers
 FT CDS 63..1052
 FT /*tag= a
 FT /*product= "CD86 protein"

PN US2002028208-A1.

PD 07-MAR-2002.

PF 30-APR-1999; 99US-0303510.

PR 01-MAY-1998; 98US-083869P.

XX (COLLISON) COLLISON E W.

PA (HASH/) HASH S M.

PA (CHOL/) CHOI I.

PI Collison EW, Choi I;

PI WPI; 2002-315045/35.

DR P-PSDB; AAU78121.

PT Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
 PT receptor or CTLA-4 receptor as vaccine for inducing immune response in
 PT feline suffering from autoimmune disease or tissue or organ transplant
 PT
 PS Claim 6; Fig 3A; 73pp; English.

XX This invention relates to the DNA and protein sequences encoding a
 CC soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
 CC CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
 CC invention also relates to a vaccine comprising an effective amount of
 CC these receptor proteins. A vaccine is useful for inducing immunity or
 CC enhancing an immune response in a cat. The protein sequences of the
 CC invention are useful for suppressing an immune response in a feline
 CC suffering from an autoimmune disease or the recipient of a tissue or
 CC organ transplant. A vector containing the DNA sequences of the
 CC invention is useful for redirecting an immune response in a feline to an
 CC immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
 CC feline immunodeficiency virus, feline leukaemia (FeLV), feline
 CC infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
 CC reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,
 CC sarcoma virus, borre disease virus or a parasite. The protein sequences
 CC may be further utilised to promote growth in homologous or heterologous
 CC feline species. Enhancement of immunity through the interaction of an
 CC soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
 CC immune response through the interaction of feline CD80 or CD86 with
 CC CTLA-4 takes advantage of the natural process of regulation rather than
 CC adding foreign substances that could have multiple, even detrimental
 CC effects on overall or long term health. The present sequence represents
 CC a cDNA encoding the feline CD86 protein of the invention.

XX
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 6.2%; Score 61; DB 24; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 6.7e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTTACAA 130
 ||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 136 CTTCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTTACAA 135

QY 131 A 131
 |
 DB 196 A 196

RESULT 15

AAZ27929
 ID AAZ27929 standard; DNA; 2830 BP.

XX
 AC AAZ27929;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 protein encoding DNA.

XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX
 OS Felis catus.

XX
 OS Felis catus.

XX
 PN MO9947558-A2.

XX
 PD 23-SEP-1999.

XX
 PF 19-MAR-1999; 99WO-US06187.

XX
 PR 19-MAR-1998; 98US-0078765.

XX
 PR 17-APR-1998; 98US-0062597.

XX
 PA (HESK-) HESKA CORP.

XX
 PI Sim G, Yang S, Sellins KS;

XX
 DR WPI: 1999-571822/48.

XX
 DR P-PSDB: AAY41079.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PF treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 116-119; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

SQ Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other;

Query Match 6.2%; Score 61; DB 20; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 6.6e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTTACAA 130
 ||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 252 CTTCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTTACAA 311

QY 131 A 131
 |
 DB 312 A 312

RESULT 16
 AAZ27930/C
 ID AAZ27930 standard; DNA; 2830 BP.

XX
 AC AAZ27930;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 gene complementary DNA sequence.

XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX
 OS Felis catus.

XX
 PN MO9947558-A2.

XX
 PD 23-SEP-1999.

XX
 PF 19-MAR-1999; 99WO-US06187.

XX
 PR 19-MAR-1998; 98US-0078765.

XX
 PR 17-APR-1998; 98US-0062597.

XX
 PA (HESK-) HESKA CORP.

XX
 PI Sim G, Yang S, Sellins KS;

XX
 DR WPI: 1999-571822/48.

XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

XX
 PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 121-123; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,

Qy 801 AACACTAAGGAAAGGAAGAACGACGCGTGGCCCTCTCATGATGTGAACCA 856
|||||
Db 327 AACACTAAGGAAAGGAAGAACGACGCGTGGCCCTCTCATGATGTGAACCA 3822

Chimeric Homo sapiens:

XX	Key	Location/Qualifiers
FT	CDS	36..1013
FT		/*tag= a
PN		MO200037102-A2.
PD		29-JUN-2000.
PE		17-DEC-1999; 99WO-GB04200.
PR		19-DEC-1998; 98GB-0027921.
PR		23-OCT-1999; 99GB-0025015.
PA		(MLML)- ML LAB PLC.
PI		Iechler RI, Rogers NJ, Dorring A;
DR		WPI; 2000-442537/38.
DR		P-PDB; AA95321.
PT		Novel methods for improving tolerance to a xenograft comprising immunizing a mammal with a T-cell epitope and a B-cell epitope -
PS		Disclosure; Fig 3; 8ipp; English.
CC		The present sequence is that of cDNA clone CD86(1), which encodes pig co-stimulatory molecule CD86 (B7-2) (see AA95321). The clone was obtained by PCR amplification of pig cDNA using primers (see AAA49662-63) based on a published pig B7-2 sequence. The invention relates to a novel strategy to inhibit costimulation by porcine cells of human T cells, with particular importance in the context of xeno-transplantation of porcine organs. Recipients are immunised with hybrid synthetic peptides comprising a T cell epitope conjugated to sequences of the porcine costimulatory molecules CC808, CD86 or CD40. Peptides that induce antibodies specific for regions of costimulatory molecules involved in binding to their counter-receptors on human cells (CD28 and CD14) are capable of blocking the delivery of costimulation. Once the antibody response has been induced, the transplanted organ will recall this response due to the expression of the costimulatory molecules, thereby sustaining the response, and providing an endogenous mechanism of costimulatory blockade. The method is useful for improving the tolerance of a host to xenografts, particularly porcine pancreatic islet cells.
SQ		Sequence 1050 BP; 305 A; 260 C; 227 G; 258 T; 0 other;
Query Match	4.5%; Score 44; DB-21; Length 1050;	
Best Local Similarity	100.0%; Pred. No. 1.7e-11;	
Matches 44; Conservative	0; Mismatches 0; Indels 0; Gaps	0
Y	381 TTCTGACCTATWCAGTGCCTTGTAACCTCAGTCACACTGAATAA 424	
b	398 TTCTGACCTATWCAGTGCCTTGTAACCTCAGTCACACTGAATAA 441	
RESULT 21		
ID	AA227935 standard; DNA; 359 BP.	
XX	AAZ27935	
AC	AAZ27935.	
DT	20-DEC-1999 (first entry)	
DE	Feline B7-2 protein (smaller fragment) encoding DNA.	
KW	B7; CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease; allergic reaction; infectious disease; tumor development; feline; graft rejection; inflammation; arthritis; atopic dermatitis; ss.	
SS	Felis catus.	

PN WO9947558-A2.
 XX 23-SEP-1999.
 PD
 XX 19-MAR-1999; 99WO-US06187.
 PF
 XX 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Slim G, Yang S, Sellins KS;
 XX WPI: 1999-571822/48.
 DR P-PSDB; AAY41081.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PS treating, e.g. autoimmune and atopic diseases
 PS Claim 1; Page 127-128; 148pp; English.
 CC
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;
 XX
 Query Match 4.3%; Score 42; DB 20; Length 359;
 Best Local Similarity 100.0%; Pred. No. 1.7e-10;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 540 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 581
 DB 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
 XX
 RESULT 22
 ID AA227936/C
 XX AA227936 standard; DNA; 359 BP.
 AC
 XX AA227936;
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 gene (smaller fragment) complementary DNA sequence.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9947558-A2.
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Slim G, Yang S, Sellins KS;
 XX WPI: 1999-571822/48.
 DR
 XX

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 129; 148pp; English.
 CC
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 359 BP; 83 A; 69 C; 79 G; 128 T; 0 other;
 XX
 Query Match 4.3%; Score 42; DB 20; Length 359;
 Best Local Similarity 100.0%; Pred. No. 1.7e-10;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 540 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 581
 DB 300 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 259
 XX
 RESULT 23
 ID AAV80293
 XX AAV80293 standard; cDNA; 738 BP.
 AC
 XX AAV80293;
 DT 15-MAR-1999 (first entry)
 XX
 DE Human B7-2 extracellular domain and linker DNA.
 XX
 KW Tumour interacting protein; cancer; gene therapy; vector;
 KW 5T4 antigen; monoclonal antibody; single chain antibody;
 KW mouse; human; B7-2; co-stimulatory molecule; ss.
 XX
 OS Chimeric - Homo sapiens.
 OS Chimeric - synthetic.
 XX
 PN WO9855607-A2.
 XX
 PD 10-DEC-1998.
 XX
 PF 04-JUN-1998; 98WO-GB01627.
 PR 04-JUL-1997; 97GB-0014230.
 PR 04-JUN-1997; 97GB-0011579.
 PR 20-JUN-1997; 97GB-0013150.
 XX
 PA (OXFO-) OXFORD BIOMEDICA UK LTD.
 XX
 PI Bebbington CR, Carroll MW, Ellard FM, Kingsman SM;
 PI Myers KA;
 XX
 DR WPI: 1999-059910/05.
 DR P-PSDB; AAM86005.
 XX
 PF New vector encoding a tumour interacting protein for treating cancer
 PT - contains a desired nucleotide sequence and/or protein which
 PT recognises tumours, and is used as a gene delivery system to treat
 PT cancer
 XX
 PS Example 5; Fig 4; 82pp; English.
 XX
 CC This DNA sequence encodes a polypeptide (see AAM86005) comprising
 CC the extracellular domain (amino acids 1-215) of human co-stimulatory
 CC molecule B7-2 joined to a C-terminal flexible peptide linker. This
 CC is part of the coding sequence of B7-2.5T4.1 co-stimulatory domain,
 CC a DNA sequence encoding a fusion protein comprising the B7-2

CC extracellular domain joined via the linker to an scfv (see AAW86002)
CC derived from murine 5T4 monoclonal antibody. The cDNA can be
CC inserted into vector pCI to allow expression of the fusion protein
CC in mammalian cells. The trophoblast cell surface antigen defined
CC by 5T4 is expressed at high levels on the cells of a wide variety
CC of human tumours. The invention relates to a vector comprising a
CC nucleotide sequence coding for a tumour interacting protein (TIP)
CC and optionally a nucleotide sequence of interest (NOI) which
CC encodes a protein of interest (POI), the vector being capable of
CC delivering the NOI and/or POI to the tumour recognised by the TIP.
CC Delivery can be in vivo or ex vivo. The vector is used to treat
CC cancer, and may also be used as a gene delivery system for
CC introducing at least 1 gene encoding a TIP (preferably a tumour
CC binding protein) into a haematopoietic cell lineage. B7-2 is
CC expected to bind specifically to CD28 and CTLA-4 present on human
CC T-cells.
CC
CC
SQ Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 20; Length 738;
Best Local Similarity 100.0%; Pred. No. 4.8e-06;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGCCTGCTAACTTCAGTCACTGAATA 423
|||||
DB 373 TCAGTGCCTGCTAACTTCAGTCACTGAATA 405

RESULT 24
AAFB9731
ID AAFB9731 standard; DNA; 738 BP.
XX
XX AAFB9731;
AC
XX
XX
DT 23-JUL-2001 (first entry)
XX
DE Nucleotide sequence of a B7-2.5T4.1 fusion protein.
XX
XX
XX Single chain antibody; scfv; inflammatory disease; arthritis; cancer;
XX hypersensitivity; autoimmune disease; central nervous system disorder;
XX Parkinson's disease; periodontal disease; cardiopulmonary disease;
XX cardiovascular disease; gastrointestinal disorder; infection; diabetes;
XX Helicobacter-related disease; immune disorder; ss.
XX
XX Synthetic.
OS
OS Mus sp.
OS
OS Homo sapiens.
OS
FH
FH
FT Key Location/Qualifiers
FT CDS 1..738
FT CDS /*tag= a
XX
XX WO200136486-A2.
XX
XX
XX 25-MAY-2001.
XX
XX
XX 13-NOV-2000; 2000WO-GB04317.
XX
XX
XX 18-NOV-1999; 99WO-GB03859.
XX 15-FEB-2000; 2000GB-0003527.
XX 02-MAR-2000; 2000GB-0005071.
XX
XX (OXFO-) OXFORD BIOMEDICA UK LTD.
XX
XX Kingsman A, Kingsman SM, Bebbington CR, Carroll MM, Ellard FM;
XX Myers KA;
XX WPI; 2001-343805/36.
XX
XX Use of single chain antibody capable of recognizing a disease
XX associated molecule for manufacturing a medicament for preventing
XX and/or treating a disease condition associated with disease associated
XX molecule

XX
PS Example 3; Fig 4; 118pp; English.
XX
XX The specification describes the use of a single chain antibody (scfv),
XX which is capable of recognizing a disease associated molecule in the
XX manufacture of a medicament for the prevention and treatment of a
XX disease condition. The scfv antibody is useful in the manufacture of
XX a medicament for affecting a disease in vivo, for preparing a
XX pharmaceutical composition, for in vivo imaging and/or for adjuvant
XX treatment of a disease. The scfv antibody is also useful for
XX treating inflammatory diseases including arthritis, hypersensitivity,
XX autoimmune diseases, cancers, central nervous system disorders
XX including Parkinson's disease, periodontal diseases, cardiopulmonary
XX diseases, cardiovascular diseases, gastrointestinal disorders,
XX infections, diabetes, Helicobacter-related diseases, and other immune
XX disorders. The present sequence encodes a B7-2.5T4.1 fusion protein.
XX This comprises the N-terminus of the 5T4 scfv is fused after amino acid
XX 215 of human B7-2.
XX
SQ Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 22; Length 738;
Best Local Similarity 100.0%; Pred. No. 4.8e-06;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGCCTGCTAACTTCAGTCACTGAATA 423
|||||
DB 373 TCAGTGCCTGCTAACTTCAGTCACTGAATA 405

RESULT 25
AAV03230
ID AAV03230 standard; cDNA; 831 BP.
XX
XX AAV03230;
AC
XX
XX
DT 22-JUN-1998 (first entry)
XX
XX
XX DNA encoding CD86 extracellular domain in CD86FcalphaIplink.
XX
XX
XX Hexameric fusion protein; IGA; alpha-Ip; tailpiece; antibody;
XX CD86; CD28; CTLA-4; vaccine; diagnosis; binding assay; screening;
XX human; ds.
XX
XX Homo sapiens.
OS
OS
OS
FH
FH
FT Key Location/Qualifiers
FT sig_peptide 52..126
FT mat_peptide /*tag= a
FT 127..831
FT CDS /*tag= b
XX
XX WO9747732-A2.
XX
XX
XX 18-DEC-1997.
XX
XX
XX 13-JUN-1997; 97WO-US12599.
XX
XX
XX 21-FEB-1997; 97US-0038915.
XX 14-JUN-1996; 96US-0019934.
XX 19-FEB-1997; 97US-0043948.
XX
XX (SWIK) SMITHKLINE BEECHAM CORP.
XX
XX Chaikin MA, Lyn SDP, Sweet RW, Truneh A;
XX WPI; 1998-052299/05.
XX P-PSDB; AAW32339.
XX
XX Hexameric fusion protein containing IGA antibody fragment - used for
XX stimulating CD28 positive cells, or suppressing CTLA-4 positive
XX cells

PS Example 1: Fig 5A-B; 105bp; English.
 CC This DNA sequence comprises a portion of plasmid CD86calphatplink
 CC that codes for the signal region and extracellular domain (see
 CC AAM42339) of human CD86 extracellular domain. The plasmid encodes a
 CC fusion protein comprising the CD86 signal peptide and extracellular
 CC domain grafted to a human IgG1 heavy chain Fc region and the
 CC tailpiece region (alpha-tp) (see AAM42344) of human IgA heavy chain.
 CC The processed fusion protein has been expressed as a hexamer in COS
 CC cells. The invention relates to novel hexameric fusion proteins
 CC comprising a dimeric binding protein such as CD86 provided at its
 CC C-terminus with a tailpiece that has the activity of alpha-tp. The
 CC tailpiece provides the fusion protein with the ability to form
 CC stable hexamers. Also claimed are polynucleotides encoding the
 CC hexameric fusion proteins, vectors, recombinant host cells and a
 CC method for producing the hexamers. The fusion protein is useful in
 CC therapeutics and vaccines, and is particularly well suited for
 CC applications for which the binding protein from which it is derived
 CC is unsatisfactory because of low binding affinity or for
 CC applications where multivalency is desired. Applications include
 CC diagnostics, binding assays and screening assays. CD86-Ig-alpha-tp
 CC fusion protein is used in claimed methods for stimulating CD28
 CC positive cells or suppressing CTLA-4 positive cells.
 CC
 SQ Sequence 831 BP; 247 A; 201 C; 162 G; 221 T; 0 other;
 Query Match 3.3%; Score 33; DB 19; Length 831;
 Best Local Similarity 100.0%; Pred. No. 4.8e-06;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 391 TCAGTCTTGGTAACTCAGTCAACCTGAATA 423
 Db 442 TCAGTCTTGGTAACTCAGTCAACCTGAATA 474
 |||||||
 RESULT 26
 AAV83208
 ID AAV83208 standard; cDNA; 972 BP.
 XX
 AC AAV83208;
 XX
 DT 02-MAR-1999 (first entry)
 DE B7-2 cDNA.
 DE
 XX Mouse; immunodeficient; pathogen; tumour; lymphocyte; antigen;
 KM immunomodulator; vector; vaccine; cancer; HIV; leishmania;
 KM Mycobacterium; listeria; Plasmodium; retrovirus; evaluation;
 KW human immunodeficiency virus; ds.
 XX
 OS Homo sapiens.
 XX
 PN WO9844788-A2.
 XX
 PD 15-OCT-1998.
 XX
 PF 09-APR-1998; 98WO-US06944.
 XX
 PR 09-DEC-1997; 97US-0069163.
 PR 09-APR-1997; 97US-0838702.
 PR 01-MAY-1997; 97US-0848760.
 XX
 PA (CHAN/) CHANG L.
 XX
 PI Chang L;
 XX
 DR WPI; 1999-024005/02.
 XX
 PT Use of immunodeficient mice comprising human cells - particularly
 PT SCID/Beige mice comprising human immune cells for evaluating
 PT vaccines against cancers or human pathogens, e.g. HIV
 XX
 PS Example 1b; Page 104-105; 154bp; English.

XX
 CC Immunodeficient mice comprising human cells can be used for
 CC exposure to human pathogens and/or their components or human
 CC tumor cells and human peripheral blood lymphocytes. Also claimed
 CC is a vaccine comprising a cell modified to express an antigen and
 CC an immune-modulating protein, this is preferably an expression
 CC vector comprising a polynucleotide sequence that encodes the
 CC antigen and immune-modulating protein. Such vectors can be used
 CC to treat a subject having a tumour by transferring the expression
 CC vector into the tumour so that the antigen and the immune-modulator
 CC are expressed by at least the tumour. The methods can be used for
 CC producing and evaluating vaccines including cancer vaccines and
 CC vaccines directed against human pathogens, e.g. HIV, leishmania,
 CC Mycobacterium, listeria or Plasmodium. This sequence is an
 CC intermediate retroviral vector derived from pLNL6, a vector approved
 CC for clinical use in the United States. pLNL is essentially pLNL6
 CC digested with ClaI and BclI to remove cloning sites and the pLNL6
 CC internal Sneo gene. These were replaced with a polylinker. A neo
 CC gene was then inserted under the transcriptional control of the SV40
 CC enhancer/promoter to create the vector pLSN. Two primers (AAV83187,
 CC AAV83188) were used to amplify the B7-2 cDNA (a ligand for
 CC CD28/CTLA-4 proteins, co-stimulators for interleukin-2 driven
 CC proliferation of T-cells) for its insertion into pLSN.
 CC
 SQ Sequence 972 BP; 304 A; 204 C; 194 G; 270 T; 0 other;
 Query Match 3.3%; Score 33; DB 20; Length 972;
 Best Local Similarity 100.0%; Pred. No. 4.8e-06;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 391 TCAGTCTTGGTAACTCAGTCAACCTGAATA 423
 Db 373 TCAGTCTTGGTAACTCAGTCAACCTGAATA 405
 |||||||
 RESULT 27
 AAD25510
 ID AAD25510 standard; DNA; 972 BP.
 XX
 AC AAD25510;
 XX
 DT 26-MAR-2002 (first entry)
 DE Human co-stimulatory molecule, B7-2 DNA.
 DE
 XX Human; vaccine; immunostimulatory molecule; interferon; IFN; therapy;
 KM antigen presentation; vaccine; tumorigenesis; cancer; cytostatic;
 KM antitumour; antibacterial; virucide; fungicide; protozoacide; B7-2; ds.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT 1..972
 FT CDS /tag= a
 FT /product= "Human B7-2 protein"
 XX
 PN WO200188097-A1.
 XX
 PD 22-NOV-2001.
 XX
 PF 17-MAY-2001; 2001WO-AU00565.
 XX
 PR 17-MAY-2000; 2000AU-0007553.
 XX
 PA (MONU) UNTV MONASH.
 XX
 PI Ralph SJ;
 XX
 DR WPI; 2002-082990/11.
 DR P-PSDB; AAE15830.
 XX
 PT New composition, useful for treatment and/or prophylaxis of cancer and
 PT tumor, comprises immunostimulatory molecule and animal cells cultured

PT in presence of interferon to enhance antigen presenting function of the
PT cells
XX
XX
XX Disclosure; Page 100-101. 127pp; English.
XX
XX The present invention relates to a composition of matter comprising an
CC immunostimulatory molecule and animal cells cultured in the presence of
CC at least one interferon (IFN) for a time and under conditions sufficient
CC to enhance the antigen presenting function of the cells. The invention
CC is used as vaccine. The composition is useful for treatment and/or
CC prophylaxis of tumorigenesis, cancer, viral, bacterial, fungal and
CC protozoal infections. The composition which comprises the soluble
CC immunostimulatory molecule and the cultured animal cells is administered
CC separately, sequentially or simultaneously to the patient. The present
CC sequence is human co-stimulatory molecule, B7-2 DNA.
XX
SQ Sequence 972 BP; 304 A; 204 C; 194 G; 270 T; 0 other;

Query Match 3.3%; Score 33; DB 24; Length 972;
Best Local Similarity 100.0%; Pred. No. 4.8e-06;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGTCTGCTTAAGTCACTCACTGAATA 423
DB 373 TCAGTGTCTGCTTAAGTCACTCACTGAATA 405
|||||

RESULT 28
AA081351
ID AA081351 standard; cDNA: 1120 BP.
XX
XX AA081351;
XX
XX 20-AUG-1995 (first entry)
XX
XX Human B lymphocyte antigen B7-2 (hB7-2-clone 29).
XX
XX CTLA4/CD28; counter receptor; B lymphocyte antigen; B7-2; ss.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
FH 107..1093
FT CDS /*tag= a
FT
FT
XX
XX WO9503408-A.
XX
XX 02-FEB-1995.
XX
XX 26-JUL-1994; 94MO-US08423.
XX
XX 26-JUL-1993; 93US-0101624.
XX 26-AUG-1993; 93US-0109393.
XX 03-NOV-1993; 93US-0147773.
XX
XX (DAND) DANA FARBER CANCER INST INC.
XX (REPK) REPLICEN CORP.
XX
XX Freeman GJ, Gray GS, Greenfield E, Nadler LM;
XX
XX MPI; 1995-075236/10.
XX P-PSDB; AAR67984.
XX
XX Nucleic acids encoding CTLA4/CD28 counter receptor, B7-2 - useful
PT for enhancing or suppressing T-cell mediated immune responses
XX
XX Claim 4; Fig 8; 175pp; English.
XX
XX A cDNA library was constructed in the pCDM8 vector using poly A+ RNA
CC from the human anti-IGM activated B cells. Four clones were strongly
CC positive for B7-2 expression by indirect immunofluorescence using
CC CTLA4lg and flow cytometric analysis. The B7-2 cDNA insert in clone
CC 29 was sequenced in the pCDM8 expression vector employing the

CC following strategy. Initial sequencing was performed using
CC sequencing primers T7 (AA081352), CDM8R (AA081353) (Invitrogen)
CC homologous to pCDM8 vector sequences adjacent to the clone B7-2 cDNA.
CC Sequencing was performed using dye terminator chemistry and an ABI
CC automated DNA sequencer. DNA sequence obtained using these primers was used
CC to design additional sequencing primers (see AA081354-Q81363). This cycle
CC of sequencing and selection of additional primers was continued until
CC the B7-2 cDNA was completely sequenced on both strands. The human
CC B7-2 clone 29 cDNA sequence is given in AA081351. The predicted
CC protein sequence (AAR67984) exhibits many features common to other
CC type 1 Ig superfamily membrane proteins. Following cleavage of the
CC signal peptide the resulting membrane-bound protein would have an
CC unmodified mol. wt. of approx. 34 kDa. The extracellular domain
CC contains eight potential N-linked glycosylation sites. E. coli
CC transfected with a vector contg. the cDNA insert of clone 29 was
CC deposited under ATCC 69357 on July 26 1993.
XX
SQ Sequence 1120 BP; 354 A; 237 C; 230 G; 299 T; 0 other;

Query Match 3.3%; Score 33; DB 16; Length 1120;
Best Local Similarity 100.0%; Pred. No. 4.8e-06;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGTCTGCTTAAGTCACTCACTGAATA 423
DB 497 TCAGTGTCTGCTTAAGTCACTCACTGAATA 529
|||||

RESULT 29
AA049181
ID AA049181 standard; cDNA: 1120 BP.
XX
XX AA049181;
XX
XX 08-APR-1997 (first entry)
XX
XX Human B lymphocyte antigen B7-2 cDNA.
XX
XX CTLA4; CD28; ligand; B7-2; B lymphocyte antigen; B-cell;
XX costimulation; immunoglobulin; antibody; autoimmune disease;
XX allergy; tumour; vaccine; graft versus host disease; T-cell;
XX T lymphocyte; TH2 response; immunosuppressive; immunostimulant;
XX therapy; ss.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
FH 107..1096
FT CDS /*tag= a
FT sig_peptide 107..175
FT /*tag= b
FT mal_peptide 176..1093
FT /*tag= c
XX
XX WO9640915-A2.
XX
XX 19-DEC-1996.
XX
XX 06-JUN-1996; 96MO-US09052.
XX
XX 07-JUN-1995; 95US-0479744.
XX
XX (DAND) DANA FARBER CANCER INST INC.
XX (REPK) REPLICEN CORP.
XX
XX Freeman GJ, Gray GS, Nadler LM;
XX
XX MPI; 1997-077269/07..*
XX P-PSDB; AAM08467.
XX
XX DNA encoding a B7-2 fusion protein - used to enhance or down
PT regulate B lymphocyte antigens
XX

PS Example 4; Page 93-94; 171pp; English.

XX A CDNA clone (AA149181), designated clone 29, codes for the

CC B-lymphocyte antigen B7-2 (AA08467), a CTLA4/CD28 ligand which

CC costimulates T cell activation. It was obtd. by transfecting COS

CC cells with a human anti-IgM activated B cell cDNA library, reacting

CC transfectants with CTLA4lg and CD28lg, and panning with anti-human

CC IgG antibody. E. coli transfected with a vector contry. the cDNA

CC insert of clone 29 was deposited as ATCC 69357. Nucleic acids

CC encoding the extracellular domain, variable region-like domain or

CC constant region-like domain of B7-2 (see also AA149197-98) are used

CC to construct novel fusion proteins with e.g. an immunoglobulin

CC constant region. These can be expressed in host cells and used to

CC enhance or suppress T cell-mediated immune responses.

XX Sequence 1120 BP; 354 A; 237 C; 230 G; 299 T; 0 other;

SO

Query Match 3.3%; Score 33; DB 18; Length 1120;

Best Local Similarity 100.0%; Pred. No. 4.8e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGTGCTGCTAAGTCACTGACCTGAATA 423

DB 497 TCAGTGTGCTGCTAAGTCACTGACCTGAATA 529

RESULT 30

AAV55784

ID AAV55784 standard; CDNA: 1120 BP.

XX AAV55784;

AC AAV55784;

DT 23-MAR-1999 (first entry)

XX Human B7-2 antigen coding sequence.

DE

XX B7-2 antigen; mammalian tumour cell; T cell costimulation; CD28 ligand;

KW CTLA4 ligand; therapy; T-cell response; human; ss.

KM

XX Homo sapiens.

OS

XX Key Location/Qualifiers

FH CDS 107..1096

FT /**tag= a

FT

XX US5861310-A.

PN 19-JAN-1999.

PD

XX 30-MAY-1995; 95US-0456104.

PE

XX 30-MAY-1995; 95US-0456104.

XX 03-NOV-1993; 93US-0147773.

PR

XX (DAND) DANA FARBER CANCER INST INC.

PA

XX Freeman GJ, Gray GS, Nadler LM;

PI

XX WPI: 1999-130394/11.

DR

XX P-PSDB: AAW3638.

DR

XX Tumour cell transfected to express B7-2 molecule - useful for tumour

PT therapy by stimulating T-cell response

PT

XX Claim 9; Column 27-30; 27pp; English.

PS

XX This sequence encodes the human B7-2 antigen, which can be used in the

CC method of the invention. The method is for transfecting an isolated

CC mammalian tumour cell, with an exogenous nucleic acid molecule encoding a

CC mammalian B7-2 molecule, where the B7-2 molecule is expressed in the

CC tumour cell is capable of costimulating a T cell and is capable of

CC binding a CD28 or CTLA4 ligand. The method is useful for treating tumours

CC by stimulating a T-cell response against tumour cells in vivo.

XX Sequence 1120 BP; 354 A; 237 C; 230 G; 299 T; 0 other;

SO

Query Match 3.3%; Score 33; DB 20; Length 1120;

Best Local Similarity 100.0%; Pred. No. 4.8e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGTGCTGCTAAGTCACTGACCTGAATA 423

DB 497 TCAGTGTGCTGCTAAGTCACTGACCTGAATA 529

RESULT 31

AAC84049

ID AAC84049 standard; CDNA: 1120 BP.

XX AAC84049;

AC AAC84049;

DT 28-MAR-2001 (first entry)

XX Human B lymphocyte antigen B7-2 cDNA clone 29.

DE

XX Immunomodulator; fusion protein; human; murine; mouse; lymphocyte; CD28;

KW antigen; extracellular domain; CTLA4; immunoglobulin constant region;

KM immunogenicity; tumour; sarcoma; antigen presenting cell; macrophage;

KW T cell-mediated immune response; transplantation; vaccination; ss.

XX

OS

XX Homo sapiens.

PN US6130316-A.

PD 10-OCT-2000.

XX

XX 26-JUL-1994; 94US-0280757.

PE

XX 26-JUL-1993; 93US-0101624.

PR

XX 19-AUG-1993; 93US-0109393.

PR

XX 03-NOV-1993; 93US-0147773.

XX

PA (DAND) DANA FARBER CANCER INST INC.

PA (REPK) REPLIGEN CORP.

XX

PI Freeman GJ, Nadler LM, Gray GS, Greenfield E;

XX

XX WPI: 2000-655681/63.

DR

XX P-PSDB: AAB37085.

DR

XX Nucleic acids and fusion proteins of CTLA4/CD28 ligands, useful for

PT enhancing or suppressing T cell-mediated immune responses, especially

PT during tissue, skin or organ transplantation, or in graft-versus-host

PT disease

PT

XX Claim 43; Fig 8; 83pp; English.

PS

XX The invention relates to an isolated nucleic acid molecule encoding a

CC fusion protein comprising a first nucleotide sequence encoding a first

CC peptide, and a second nucleotide sequence encoding a second peptide.

CC The first nucleotide sequence hybridizes in 6 X sodium chloride/sodium

CC citrate (SSC) at 45 deg. C, followed by a wash in 0.2 X SSC at 50 deg. C

CC to a portion of a nucleotide sequence which encodes a human or murine

CC B lymphocyte antigen (B7-2) extracellular domain. The first peptide has

CC the ability to bind CD28 or CTLA4. The first peptide has an amino acid

CC sequence that is identical or at least 50% identical with the

CC extracellular domain of a human B7-2 peptide (AAB37085). The second

CC peptide is especially an immunoglobulin constant region. This sequence

CC represents the cDNA clone 29 encoding the human B lymphocyte antigen B7-2

CC (hb7-2 clone 29) and is used as a first sequence in the construct of the

CC invention. The nucleic acid molecules are useful in various expression

CC vectors to direct synthesis of the corresponding proteins or peptides

CC in a variety of hosts, particularly eukaryotic cells, e.g. mammalian or

CC insect cell culture. The nucleic acids are also useful for enhancing

CC the immunogenicity of a mammalian cell, e.g. tumour cell (sarcoma) or

CC an antigen presenting cell (macrophage). The fusion proteins or peptides

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 129.96 Seconds

(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-9

Perfect score: 987
Sequence: 1 atgtatctcagatgacatc.....acaacagctacacagttt 987

Scoring table: OLIGO_NUC
Gapop 60.0, Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published Applications - NA: *
1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq: *
2: /cgn2_6/ptodata/2/pubpna/PCT_NEW_PUB.seq: *
3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq: *
4: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq: *
5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq: *
6: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq: *
7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq: *
8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq: *
9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq: *
10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq: *
11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq: *
12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq: *
13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq: *
14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	61	6.2	1080	10 US-09-303-510-5	Sequence 5, Appl1
2	61	6.2	1080	10 US-09-303-040-5	Sequence 5, Appl1
3	33	3.3	551	9 US-09-796-692-7817	Sequence 7817, Ap
4	33	3.3	598	9 US-09-796-692-7754	Sequence 7754, Ap
5	33	3.3	751	9 US-10-105-2008-34	Sequence 34, Appl1
6	33	3.3	831	10 US-09-845-899A-4	Sequence 4, Appl1
7	33	3.3	972	9 US-09-826-025-11	Sequence 11, Appl1
8	33	3.3	1002	9 US-10-105-2008-33	Sequence 33, Appl1
9	33	3.3	1056	10 US-09-756-983-17	Sequence 17, Appl1
10	33	3.3	1112	9 US-09-441-411-25	Sequence 25, Appl1
11	33	3.3	1120	8 US-08-592-711-3	Sequence 3, Appl1
12	33	3.3	1120	9 US-09-962-969-22	Sequence 22, Appl1
13	33	3.3	1120	10 US-09-837-867A-22	Sequence 22, Appl1
14	33	3.3	1161	9 US-09-962-969-24	Sequence 24, Appl1
15	33	3.3	1161	10 US-09-837-867A-24	Sequence 24, Appl1
16	33	3.3	1424	9 US-09-954-531-366	Sequence 366, Appl1
17	33	3.3	1424	9 US-09-441-411-21	Sequence 21, Appl1
18	33	3.3	1424	10 US-09-962-436-556	Sequence 556, Appl1
19	25	2.5	25	10 US-09-303-510-34	Sequence 34, Appl1

20	25	2.5	25	10 US-09-303-510-38	Sequence 38, Appl1
21	25	2.5	25	10 US-09-303-040-34	Sequence 34, Appl1
22	25	2.5	25	10 US-09-303-040-38	Sequence 38, Appl1
23	24	2.4	54	10 US-09-147-142-23	Sequence 23, Appl1
24	24	2.4	54	10 US-09-147-142-26	Sequence 26, Appl1
25	21	2.1	210	9 US-09-962-969-31	Sequence 31, Appl1
26	21	2.1	210	10 US-09-837-867A-31	Sequence 31, Appl1
27	21	2.1	505	10 US-09-733-607-4	Sequence 4, Appl1
28	21	2.1	2577	10 US-09-529-063-71	Sequence 71, Appl1
29	21	2.1	2880	10 US-09-764-898-81	Sequence 81, Appl1
30	21	2.1	3013	10 US-09-764-853-260	Sequence 260, Appl1
31	21	2.1	3088	10 US-09-529-063-72	Sequence 72, Appl1
32	21	2.1	3336	9 US-10-004-551-27	Sequence 27, Appl1
33	20	2.0	22	9 US-10-115-615-20	Sequence 20, Appl1
34	19	1.9	195	9 US-09-962-969-11	Sequence 41, Appl1
35	19	1.9	195	10 US-09-837-867A-41	Sequence 41, Appl1
36	19	1.9	4512	9 US-10-007-706-2	Sequence 2, Appl1
37	19	1.9	6220	9 US-10-007-706-3	Sequence 3, Appl1
38	18	1.8	273	9 US-09-938-842A-2507	Sequence 2507, Ap
39	18	1.8	471	10 US-09-864-761-2757	Sequence 2757, Ap
40	18	1.8	505	10 US-09-783-590-329	Sequence 329, Appl1
41	18	1.8	700	10 US-09-728-952-62	Sequence 62, Appl1
42	18	1.8	822	10 US-09-770-445-722	Sequence 722, Appl1
43	18	1.8	855	9 US-09-728-952-63	Sequence 63, Appl1
44	18	1.8	1454	9 US-09-957-708-14	Sequence 14, Appl1
45	18	1.8	2105	9 US-10-071-766-100	Sequence 100, Appl1
46	18	1.8	2508	9 US-09-938-842A-2036	Sequence 2036, Ap
47	18	1.8	3346	12 US-10-078-929-191	Sequence 191, Appl1
48	18	1.8	15772	10 US-09-764-903-66	Sequence 66, Appl1
49	18	1.8	45839	12 US-10-025-187-3	Sequence 3, Appl1
50	17	1.7	48	9 US-10-179-046-7	Sequence 7, Appl1
51	17	1.7	54	9 US-10-179-046-25	Sequence 25, Appl1
52	17	1.7	56	9 US-10-179-046-30	Sequence 30, Appl1
53	17	1.7	97	9 US-09-747-377-329	Sequence 329, Appl1
54	17	1.7	133	10 US-09-878-574-7526	Sequence 7526, Ap
55	17	1.7	155	9 US-09-535-459-909	Sequence 103, Ap
56	17	1.7	155	9 US-09-535-459-1103	Sequence 1103, Ap
57	17	1.7	184	10 US-09-864-761-17534	Sequence 17534, A
58	17	1.7	214	9 US-09-535-459-1119	Sequence 1062, Ap
59	17	1.7	247	9 US-09-535-459-1074	Sequence 1119, Ap
60	17	1.7	261	9 US-09-535-459-1074	Sequence 1074, Ap
61	17	1.7	271	10 US-09-878-574-8204	Sequence 8204, Ap
62	17	1.7	275	10 US-09-878-574-12123	Sequence 12123, A
63	17	1.7	278	10 US-09-960-352-9363	Sequence 9363, Ap
64	17	1.7	354	10 US-09-864-761-750	Sequence 750, Appl1
65	17	1.7	364	10 US-09-864-761-3828	Sequence 3828, Ap
66	17	1.7	366	9 US-10-015-219-792	Sequence 792, Appl1
67	17	1.7	366	10 US-09-777-564-792	Sequence 792, Appl1
68	17	1.7	390	9 US-10-179-046-13	Sequence 13, Appl1
69	17	1.7	400	7 US-08-781-986A-3856	Sequence 3856, Ap
70	17	1.7	406	10 US-09-878-574-2459	Sequence 2459, Ap
71	17	1.7	408	9 US-09-918-995-37063	Sequence 37063, A
72	17	1.7	417	7 US-08-781-986A-4133	Sequence 4133, Ap
73	17	1.7	417	9 US-09-918-995-24307	Sequence 34307, A
74	17	1.7	470	9 US-09-918-995-928801	Sequence 28801, A
75	17	1.7	484	9 US-09-796-692-92861	Sequence 9286, Ap
76	17	1.7	538	9 US-09-918-995-22471	Sequence 22471, A
77	17	1.7	583	10 US-09-864-761-13635	Sequence 13635, A
78	17	1.7	948	9 US-09-966-436B-3	Sequence 3, Appl1
79	17	1.7	1151	9 US-09-962-969-20	Sequence 20, Appl1
80	17	1.7	1151	10 US-09-837-867A-20	Sequence 20, Appl1
81	17	1.7	1261	9 US-09-441-411-23	Sequence 23, Appl1
82	17	1.7	1261	9 US-09-962-969-12	Sequence 12, Appl1
83	17	1.7	1261	10 US-09-837-867A-12	Sequence 12, Appl1
84	17	1.7	1269	9 US-10-166-048-61	Sequence 61, Appl1
85	17	1.7	1716	9 US-10-179-046-1	Sequence 1, Appl1
86	17	1.7	1902	9 US-09-938-842A-1750	Sequence 1750, Ap
87	17	1.7	2000	9 US-09-938-842A-4872	Sequence 4872, Ap
88	17	1.7	2149	9 US-09-966-384-5	Sequence 5, Appl1
89	17	1.7	2404	9 US-10-102-806-257	Sequence 257, Appl1
90	17	1.7	2538	9 US-10-027-806-61	Sequence 61, Appl1
91	17	1.7	2538	9 US-10-034-623-61	Sequence 61, Appl1
92	17	1.7	2538	9 US-10-027-801-61	Sequence 61, Appl1

93 17 1.7 2780 9 US-09-968-436B-1 Sequence 1, Appl1
94 17 1.7 2812 12 US-10-002-600-103 Sequence 103, App
95 17 1.7 2892 9 US-09-938-842A-1073 Sequence 1073, App
96 17 1.7 3598 10 US-09-925-301-170 Sequence 170, App
97 17 1.7 7596 10 US-09-728-952-1 Sequence 1, Appl1
98 17 1.7 7972 7 US-08-781-986A-312 Sequence 312, App
99 17 1.7 8121 10 US-09-785-770A-14 Sequence 14, Appl
c 100 17 1.7 9827 9 US-10-114-170-66 Sequence 66, Appl

ALIGNMENTS

RESULT 1
US-09-303-510-5

; Sequence 5, Application US/09303510A
; Patent No. US20020028208A1
; GENERAL INFORMATION:
; APPLICANT: Collisson, Ellen W.
; APPLICANT: Choi, Insoo
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
; TITLE OF INVENTION: CTLA-4 Nucleic Acid and Polypeptides
; FILE REFERENCE: 54954
; CURRENT APPLICATION NUMBER: US/09/303,510A
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083,869
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 83
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: Feline
US-09-303-510-5

Query Match
Best Local Similarity 100.0%; Score 61; DB 10; Length 1080;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCATGAGAGTCAAGCATATTTCACAGAGCTGAGAGCTGCATGCTTTACAA 130
Db 136 CTTCATGAGAGTCAAGCATATTTCACAGAGCTGAGAGCTGCATGCTTTACAA 195

QY 131 A 131
Db 196 A 196

RESULT 2

US-09-303-040-5

; Sequence 5, Application US/09303040
; Patent No. US20020051792A1
; GENERAL INFORMATION:
; APPLICANT: Winslow, Barbara J.
; APPLICANT: Cochran, Mark D.
; TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, Feline CTLA-4 or
; TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof
; FILE REFERENCE: 54957-B
; CURRENT APPLICATION NUMBER: US/09/303,040
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083,870
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 82
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: feline CD86
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (63)..(1052)

US-09-303-040-5

Query Match
Best Local Similarity 100.0%; Score 61; DB 10; Length 1080;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCATGAGAGTCAAGCATATTTCACAGAGCTGAGAGCTGCATGCTTTACAA 130
Db 136 CTTCATGAGAGTCAAGCATATTTCACAGAGCTGAGAGCTGCATGCTTTACAA 195

QY 131 A 131
Db 196 A 196

RESULT 3
US-09-796-692-7817

; Sequence 7817, Application US/09796692
; Publication No. US20020198362A1
; GENERAL INFORMATION:
; APPLICANT: Galger, Alexander
; APPLICANT: Algate, Paul A.
; APPLICANT: Mannion, Jane
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE DETECTION, DIAGNOSIS AND THER
; FILE REFERENCE: 2077, 001200
; CURRENT APPLICATION NUMBER: US/09/796,692
; CURRENT FILING DATE: 2001-03-01
; PRIOR APPLICATION NUMBER: 60/186,126
; PRIOR FILING DATE: 2000-03-01
; PRIOR APPLICATION NUMBER: 60/190,479
; PRIOR FILING DATE: 2000-03-17
; PRIOR APPLICATION NUMBER: 60/200,545
; PRIOR FILING DATE: 2000-04-27
; PRIOR APPLICATION NUMBER: 60/200,303
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: 60/200,779
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: 60/200,999
; PRIOR FILING DATE: 2000-05-01
; PRIOR APPLICATION NUMBER: 60/202,084
; PRIOR FILING DATE: 2000-05-04
; PRIOR APPLICATION NUMBER: 60/206,201
; PRIOR FILING DATE: 2000-05-22
; PRIOR APPLICATION NUMBER: 60/218,950
; PRIOR FILING DATE: 2000-07-14
; PRIOR APPLICATION NUMBER: 60/222,903
; PRIOR FILING DATE: 2000-08-03
; PRIOR APPLICATION NUMBER: 60/223,416
; PRIOR FILING DATE: 2000-08-04
; PRIOR APPLICATION NUMBER: 60/223,378
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 9597
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 7817
; LENGTH: 551
; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (526)
; OTHER INFORMATION: n-A,T,C or G
; NAME/KEY: unsure
; LOCATION: (535)
; OTHER INFORMATION: n-A,T,C or G
US-09-796-692-7817

Query Match
Best Local Similarity 100.0%; Score 33; DB 9; Length 551;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGTGTAACCTTCAGTCAACCTGAATA 423
|||||

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 47.3311 Seconds
(without alignments)
6395.163 Million cell updates/sec

Title: US-09-646-561-9
Perfect score: 987
Sequence: 1 atgtatctcagatgcactat.....aacacgtactacacagttt 987

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 441362 seqs, 15338381 residues

Word size : 0

Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Issued_Patents_NA: *
1: /cgn2_6/ptodata/1/ina/5A_COMB.seq: *
2: /cgn2_6/ptodata/1/ina/5B_COMB.seq: *
3: /cgn2_6/ptodata/1/ina/6A_COMB.seq: *
4: /cgn2_6/ptodata/1/ina/6B_COMB.seq: *
5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq: *
6: /cgn2_6/ptodata/1/ina/Backfile1.seq: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	33	3.3	751	4	US-09-039-982A-34
2	33	3.3	751	4	US-09-039-641-34
3	33	3.3	751	4	US-09-039-762A-34
4	33	3.3	751	4	US-09-042-492D-34
5	33	3.3	751	4	US-08-913-612A-34
6	33	3.3	972	4	US-08-848-760B-11
7	33	3.3	1002	4	US-09-039-982A-33
8	33	3.3	1002	4	US-09-039-641-33
9	33	3.3	1002	4	US-09-039-762A-33
10	33	3.3	1002	4	US-09-042-492D-33
11	33	3.3	1002	4	US-08-913-612A-33
12	33	3.3	1120	2	US-08-456-104-1
13	33	3.3	1120	2	US-08-101-624-1
14	33	3.3	1120	3	US-08-479-744A-1
15	33	3.3	1120	3	US-08-280-757B-1
16	33	3.3	1120	4	US-08-205-697A-22
17	33	3.3	1120	4	US-08-702-525-22
18	33	3.3	1120	4	US-08-403-253A-3
19	33	3.3	1120	5	PCT-US95-02576-22
20	33	3.3	1161	4	US-08-205-697A-24
21	33	3.3	1161	4	US-08-702-525-24
22	33	3.3	1161	5	PCT-US95-02576-24
23	33	3.3	1424	4	US-09-326-186B-226
24	33	3.3	1424	5	PCT-US94-09642-1
25	32	3.2	330	3	US-08-479-744A-44
26	32	3.2	330	3	US-08-280-757B-44
27	27	2.7	28	2	US-08-859-998-601

28	27	2.7	28	4	US-09-225-928-601	Sequence 601, App
29	24	2.4	62	3	US-08-479-744A-53	Sequence 53, App1
30	24	2.4	62	3	US-08-280-757B-53	Sequence 53, App1
31	24	2.4	63	3	US-08-479-744A-52	Sequence 52, App1
32	24	2.4	63	3	US-08-280-757B-52	Sequence 52, App1
33	24	2.4	306	3	US-08-479-744A-46	Sequence 46, App1
34	24	2.4	306	3	US-08-280-757B-46	Sequence 46, App1
35	21	2.1	210	4	US-08-205-697A-41	Sequence 31, App1
36	21	2.1	210	4	US-08-702-525-31	Sequence 31, App1
37	21	2.1	210	5	PCT-US95-02576-31	Sequence 31, App1
38	20	2.0	20	4	US-09-326-186B-186	Sequence 186, App
39	20	2.0	20	4	US-09-326-186B-188	Sequence 188, App
40	19	1.9	195	4	US-08-205-697A-41	Sequence 41, App1
41	19	1.9	195	4	US-08-702-525-41	Sequence 41, App1
42	19	1.9	195	5	PCT-US95-02576-41	Sequence 41, App1
43	18	1.8	18	2	US-08-585-684B-2598	Sequence 2598, App
44	18	1.8	18	2	US-09-038-073-2598	Sequence 2598, App
45	17	1.7	48	3	US-09-029-267-7	Sequence 7, App11
46	17	1.7	54	3	US-09-029-267-25	Sequence 25, App1
47	17	1.7	56	3	US-09-029-267-30	Sequence 30, App1
48	17	1.7	187	4	US-09-280-116-170	Sequence 170, App
49	17	1.7	219	6	5217896-6	Patent No. 5217896
50	17	1.7	390	3	US-09-029-267-13	Sequence 13, App1
51	17	1.7	1151	2	US-08-456-104-3	Sequence 3, App11
52	17	1.7	1151	2	US-08-205-697A-20	Sequence 20, App1
53	17	1.7	1151	4	US-08-702-525-20	Sequence 20, App1
54	17	1.7	1151	5	PCT-US95-02576-20	Sequence 20, App1
55	17	1.7	1163	3	US-08-479-744A-22	Sequence 22, App1
56	17	1.7	1163	3	US-08-280-757B-22	Sequence 22, App1
57	17	1.7	1261	4	US-08-205-697A-12	Sequence 12, App1
58	17	1.7	1261	4	US-08-702-525-12	Sequence 12, App1
59	17	1.7	1261	5	PCT-US95-02576-12	Sequence 12, App1
60	17	1.7	1428	4	US-09-134-001C-941	Sequence 941, App
61	17	1.7	1428	3	US-08-350-468-7	Sequence 7, App11
62	17	1.7	1716	3	US-09-029-267-1	Sequence 1, App11
63	17	1.7	2885	1	US-08-920-812-4	Sequence 4, App11
64	17	1.7	2885	1	US-08-920-827-4	Sequence 4, App11
65	17	1.7	2885	1	US-08-921-177-4	Sequence 4, App11
66	17	1.7	2885	1	US-08-362-577C-4	Sequence 4, App11
67	17	1.7	2885	2	US-08-920-828-4	Sequence 4, App11
68	17	1.7	9827	1	US-09-453-702B-66	Sequence 66, App1
69	17	1.7	19011	1	US-08-310-356-36	Sequence 36, App1
70	17	1.7	19557	5	PCT-US92-06300-1	Sequence 1, App11
71	16	1.6	18	2	US-08-585-684B-2586	Sequence 2586, App
72	16	1.6	18	4	US-09-038-073-2586	Sequence 54, App1
73	16	1.6	270	1	US-08-127-954-54	Sequence 55, App1
74	16	1.6	270	1	US-08-127-954-55	Sequence 55, App1
75	16	1.6	270	1	US-08-127-954-56	Sequence 56, App1
76	16	1.6	270	1	US-08-127-954-57	Sequence 57, App1
77	16	1.6	270	1	US-08-127-954-58	Sequence 58, App1
78	16	1.6	270	1	US-08-127-954-59	Sequence 59, App1
79	16	1.6	270	1	US-08-127-954-60	Sequence 60, App1
80	16	1.6	270	1	US-08-127-954-61	Sequence 61, App1
81	16	1.6	270	1	US-08-127-954-62	Sequence 62, App1
82	16	1.6	317	4	US-09-370-838-17	Sequence 17, App1
83	16	1.6	317	4	US-09-385-882-494	Sequence 494, App
84	16	1.6	404	4	US-09-221-017B-73	Sequence 73, App11
85	16	1.6	471	2	US-09-070-060-9	Sequence 9, App11
86	16	1.6	471	3	US-09-357-746-9	Sequence 9, App11
87	16	1.6	487	3	US-09-051-969A-2	Sequence 2, App11
88	16	1.6	490	4	US-09-221-017B-178	Sequence 178, App
89	16	1.6	571	4	US-09-404-879A-82	Sequence 82, App1
90	16	1.6	598	4	US-09-328-111-538	Sequence 538, App
91	16	1.6	910	4	US-08-456-200B-16	Sequence 16, App1
92	16	1.6	1255	4	US-09-149-476-15	Sequence 75, App1
93	16	1.6	1392	4	US-09-130-616-171	Sequence 171, App
94	16	1.6	1437	4	US-09-134-001C-2228	Sequence 228, App
95	16	1.6	1443	2	US-08-454-557C-13	Sequence 13, App1
96	16	1.6	1443	2	US-08-340-426D-13	Sequence 13, App1
97	16	1.6	1443	2	US-08-450-673C-13	Sequence 13, App1
98	16	1.6	1443	5	PCT-US95-17111A-13	Sequence 13, App1
99	16	1.6	1523	4	US-09-130-616-172	Sequence 172, App
100	16	1.6	1563	4	US-09-292-858B-11	Sequence 11, App1

ALIGNMENTS

RESULT 1

US-09-039-982A-34
Sequence 34, Application US/09039982A
Patent No. 6225042
GENERAL INFORMATION:
APPLICANT: Cal, Zeling
APPLICANT: Sprent, Jonathan
APPLICANT: Brunmark, Anders
APPLICANT: Jackson, Michael
APPLICANT: Peterson, Per A
TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR ACTIVATION OF T-CELLS
NUMBER OF SEQUENCES: 59
CORRESPONDENCE ADDRESS:
ADDRESSEE: Olson & Hierl, Ltd.
STREET: 20 No. 6225042th Wacker Drive, Suite 3000
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,982A
FILING DATE: 16-MAR-1998
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Olson, Arne M.
REGISTRATION NUMBER: 30,203
REFERENCE/DOCKET NUMBER: TSRI4710
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 580-1189
TELEFAX: (312) 580-1189
INFORMATION FOR SEQ ID NO: 34:
SEQUENCE CHARACTERISTICS:
LENGTH: 751 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
HYPOTHETICAL: NO
ANTI-SENSE: NO
US-09-039-982A-34

Query Match 3.3%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred. No. 5.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 391 TCAGTGTCTGCTAACTCAGTCACCTGGAATA 423
397 TCAGTGTCTGCTAACTCAGTCACCTGGAATA 429

RESULT 2
US-09-039-641-34
Sequence 34, Application US/090399641
Patent No. 6251627
GENERAL INFORMATION:
APPLICANT: Cal, Zeling
APPLICANT: Sprent, Jonathan
APPLICANT: Brunmark, Anders
APPLICANT: Jackson, Michael
APPLICANT: Peterson, Per A
TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR
NUMBER OF SEQUENCES: 45

CORRESPONDENCE ADDRESS:
ADDRESSEE: Olson & Hierl, Ltd.
STREET: 20 No. 6251627th Wacker Drive, Suite 3000
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,641
FILING DATE: 8-MAR-1995
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Olson, Arne M.
REGISTRATION NUMBER: 30,203
REFERENCE/DOCKET NUMBER: TSRI4710
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 580-1189
TELEFAX: (312) 580-1189
INFORMATION FOR SEQ ID NO: 34:
SEQUENCE CHARACTERISTICS:
LENGTH: 751 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
HYPOTHETICAL: NO
ANTI-SENSE: NO
US-09-039-641-34

Query Match 3.3%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred. No. 5.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 391 TCAGTGTCTGCTAACTCAGTCACCTGGAATA 423
397 TCAGTGTCTGCTAACTCAGTCACCTGGAATA 429

RESULT 3
US-09-039-762A-34
Sequence 34, Application US/09039762A
Patent No. 6255073
GENERAL INFORMATION:
APPLICANT: Cal, Zeling
APPLICANT: Sprent, Jonathan
APPLICANT: Brunmark, Anders
APPLICANT: Jackson, Michael
APPLICANT: Peterson, Per A
TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS
NUMBER OF SEQUENCES: 59
CORRESPONDENCE ADDRESS:
ADDRESSEE: Olson & Hierl, Ltd.
STREET: 20 No. 6255073th Wacker Drive, 36th floor
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/039,762A
FILING DATE: 16-MAR-1998
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:

GenCore version 5.1.4-p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 1850.19 Seconds
(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-9

Perfect score: 987
Sequence: 1 atgtatctcagatgcactat.....acaacagctactacacagttt 987

Scoring table: OLIGO_NUC

Gapop 60.0 , Gapext 60.0

Searched: 16154066 seqs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

EST:*
1: em_estba:*
2: em_esthum:*
3: em_estin:*
4: em_estmu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_hlc:*
9: gb_estl:*
10: gb_est2:*
11: gb_hlc:*
12: gb_est3:*
13: gb_est4:*
14: gb_est5:*
15: em_estfun:*
16: em_estom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_inv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_trod:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	44	4.5	448	9	AA056906 EST224R P
2	41	4.2	512	9	AA056905 EST224F P
3	33	3.3	655	13	BI824940 603032554
4	33	3.3	709	14	BI0109553 imageqc_7
5	33	3.3	753	13	BI906246 603063172
6	22	2.2	578	13	BM089797 503647 MA

7	21	2.1	211	14	N93838	AT246594
8	21	2.1	227	9	AT124694	AT124694
9	21	2.1	243	9	AT18705	AT18705
10	21	2.1	258	9	AT208150	AT208150
11	21	2.1	299	12	BI197470	BI197470
12	21	2.1	312	12	BI185108	BI185108
13	21	2.1	335	9	AT240804	AT240804
14	21	2.1	336	12	BI190424	BI190424
15	21	2.1	338	10	AW901615	AW901615
16	21	2.1	344	9	BI192964	BI192964
17	21	2.1	344	9	AI190186	AI190186
18	21	2.1	345	12	BI193509	BI193509
19	21	2.1	347	12	BI001664	BI001664
20	21	2.1	358	10	AW901624	AW901624
21	21	2.1	370	10	AW901623	AW901623
22	21	2.1	378	9	AA973397	AA973397
23	21	2.1	380	10	AW901617	AW901617
24	21	2.1	390	9	AI027674	AI027674
25	21	2.1	391	9	AI632116	AI632116
26	21	2.1	392	9	AA748416	AA748416
27	21	2.1	393	9	AI435323	AI435323
28	21	2.1	397	12	BI202649	BI202649
29	21	2.1	399	12	BI184062	BI184062
30	21	2.1	400	12	BI196006	BI196006
31	21	2.1	404	12	BI194842	BI194842
32	21	2.1	405	12	BI194484	BI194484
33	21	2.1	405	12	BI199567	BI199567
34	21	2.1	406	9	AI559219	AI559219
35	21	2.1	406	12	BI192422	BI192422
36	21	2.1	406	12	BI210605	BI210605
37	21	2.1	409	12	BI186104	BI186104
38	21	2.1	409	12	BI209496	BI209496
39	21	2.1	412	12	BI192423	BI192423
40	21	2.1	412	12	BI185632	BI185632
41	21	2.1	414	12	BI190905	BI190905
42	21	2.1	414	12	BI192421	BI192421
43	21	2.1	414	12	BI194011	BI194011
44	21	2.1	414	12	BI200091	BI200091
45	21	2.1	414	12	BI220897	BI220897
46	21	2.1	415	12	BI191385	BI191385
47	21	2.1	415	12	BI214212	BI214212
48	21	2.1	416	12	BI211011	BI211011
49	21	2.1	416	12	BI211511	BI211511
50	21	2.1	417	12	BI214715	BI214715
51	21	2.1	418	12	BI197469	BI197469
52	21	2.1	419	12	BI206317	BI206317
53	21	2.1	421	12	BI188790	BI188790
54	21	2.1	421	12	BI207334	BI207334
55	21	2.1	422	12	BI182497	BI182497
56	21	2.1	422	12	BI183017	BI183017
57	21	2.1	423	12	BI215816	BI215816
58	21	2.1	425	12	BI194483	BI194483
59	21	2.1	425	12	BI183018	BI183018
60	21	2.1	425	12	BI220420	BI220420
61	21	2.1	426	10	AW168820	AW168820
62	21	2.1	431	12	BI221377	BI221377
63	21	2.1	433	14	N26833	N26833
64	21	2.1	434	12	BI216890	BI216890
65	21	2.1	435	9	AA836228	AA836228
66	21	2.1	435	12	BI220419	BI220419
67	21	2.1	436	9	AI101841	AI101841
68	21	2.1	440	9	AI362266	AI362266
69	21	2.1	442	12	BI220898	BI220898
70	21	2.1	443	9	AI123425	AI123425
71	21	2.1	444	10	AW440554	AW440554
72	21	2.1	450	14	N64336	N64336
73	21	2.1	454	9	AA243790	AA243790
74	21	2.1	455	9	AI224951	AI224951
75	21	2.1	457	12	BI199029	BI199029
76	21	2.1	458	12	BI193508	BI193508
77	21	2.1	459	12	BI185634	BI185634
78	21	2.1	461	10	AW510652	AW510652
79	21	2.1	465	12	BI218537	BI218537

N93838	za71h02.r1	AT246594	l164d03.x
AT124694	l164d03.x	AT18705	l164b02.x
AT208150	qg32h12.x	BI197470	RST16715
BI185108	RST4046 A	AT240804	qhs4c05.x
BI190424	RST9495 A	AW901615	RCO-NN101
BI192964	RST12089	BI192964	ws38c10.x
AI190186	RST12643	BI193509	RST12643
BI001664	RC4-GN006	AW901624	RCO-NN101
AW901623	RCO-NN101	AA973397	o044a04.s
AW901617	RCO-NN101	AI027674	ov83h10.x
AI632116	ts85b01.x	AA748416	oa56d09.s
AI435323	lh72b06.x	BI202649	RST22013
BI184062	RST2978 A	BI196006	RST15214
BI194842	RST14144	BI194484	RST13643
BI199567	RST18858	AI559219	lq32b07.x
BI192422	RST11536	BI210605	RST30038
BI186104	RST5129 A	BI209496	RST29017
BI192423	RST11537	BI185632	RST4583 A
BI190905	RST9986 A	BI194011	RST11535
BI192421	RST13153	BI200091	RST19394
BI220897	RST40696	BI214212	RST10478
BI211011	RST30567	BI211511	RST31078
BI214715	RST34365	BI197469	RST16714
BI206317	RST25762	BI188790	RST7824 A
BI207334	RST26811	BI182497	RST1373 A
BI183017	RST1902 A	BI215816	RST35496
BI194483	RST13642	BI183018	RST1903 A
BI220420	RST40203	AW168820	x113e08.x
BI221377	RST41188	N26833	yw65f09.s1
BI216890	RST36590	AA836228	o023h09.s
BI220419	RST40202	AI101841	ov63a06.s
AI362266	qy50e07.x	BI220898	RST40697
AI123425	q449c08.x	AW440554	x115c11.x
AA243790	zr767f02.r	AI224951	q131e08.x
BI199029	RST18305	BI193508	RST12642
BI185634	RST4585 A	AW510652	hc89b04.x
BI218537	RST38161		

ALIGNMENTS

counter-receptor, human, mRNA sequence.

5

Tuggle, C.K., Wahls,

Molecular Genetics

Email: cktugle@iastate.edu

Location/Qualifiers

```
/organism="Sus scrofa"
```

Insert Length: 950 Std E

ORIGIN

RESULT 3

LOCUS BI824940

REFERENCE

COMMENT

Email: cgapps-remail.nln.gov

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 2436.71 Seconds
(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-19

Perfect score: 840
Sequence: 1 atgtatcttcagatgcactat.....acaacagctactacacagttt 840

Scoring table: OLIGO-MNC
Gapop 60.0 , Gapext 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: listing first 100 summaries

Database : GenEmbl:*

1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_cm:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pln:*
35: em_htg_rtd:*
36: em_htg_man:*
37: em_htg_vtl:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	840	100.0	1795	4	AF106827
2	704	83.8	1897	4	AF106826
3	61	7.3	1138	4	AF157827
4	61	7.3	1270	4	AB030652
5	61	7.3	2830	4	AY007704
6	33	3.9	738	6	AX002781
7	33	3.9	738	6	AX149548
8	33	3.9	751	6	AR147737
9	33	3.9	751	6	AR159759
10	33	3.9	751	6	AR160451
11	33	3.9	751	6	AR202407
12	33	3.9	972	6	AX027005
13	33	3.9	1002	6	AR147736
14	33	3.9	1002	6	AR159758
15	33	3.9	1002	6	AR160450
16	33	3.9	1002	6	AR202406
17	33	3.9	1044	9	AF344851
18	33	3.9	1048	9	AF344857
19	33	3.9	1062	9	AF344840
20	33	3.9	1062	9	AF344861
21	33	3.9	1112	9	H0MB72A
22	33	3.9	1120	6	AR030780
23	33	3.9	1120	6	AR112747
24	33	3.9	1120	6	AR146413
25	33	3.9	1120	6	AR196804
26	33	3.9	1120	6	AX047043
27	33	3.9	1161	6	AR146414
28	33	3.9	1424	6	AR178980
29	33	3.9	1424	6	AX330924
30	33	3.9	1424	6	AX332506
31	33	3.9	1424	9	HSU04343
32	33	3.9	2205	6	AX188198
33	33	3.8	330	6	AR112783
34	32	3.8	741	9	HSB7284
35	32	3.8	901	9	AF344836
36	32	3.8	164161	9	AC068630
37	30	3.6	994	4	PICCD86G
38	30	3.6	994	6	AX027016
39	27	3.2	28	6	AR090481
40	27	3.2	28	6	AR197516
41	24	2.9	62	6	AR112790
42	24	2.9	63	6	AR112789
43	24	2.9	306	6	AR112784
44	24	2.9	737	7	HSB7285
45	23	2.7	76884	2	AC103292
46	22	2.6	924	4	BR291475
47	22	2.6	44971	9	AC105251
48	21	2.5	133	4	AF222915
49	21	2.5	175	9	HSU38432
50	21	2.5	210	6	AR146418
51	21	2.5	449	10	RNU31330
52	21	2.5	630	9	HSB7288
53	21	2.5	942	6	EL4273
54	21	2.5	942	10	D50558
55	21	2.5	2540	9	AK098323
56	21	2.5	2949	9	AY028435
57	21	2.5	2954	9	AK001486
58	21	2.5	3055	9	BC032109
59	21	2.5	3078	9	AF166350
60	21	2.5	3336	6	AX084233
61	21	2.5	3573	9	AB056772
62	21	2.5	93034	9	AP004582
63	21	2.5	121287	9	AC010332
64	21	2.5	155723	9	AP002847
65	21	2.5	163198	2	AC095367

Pred. No. is the number of results predicted by chance to have a

66	2	2.5	163677	9	AL190844	Human DNA
c 67	21	2.5	178053	2	AC021112	Homo sapi
c 68	21	2.5	186866	2	AC106085	AC106085 Rat1us no
c 69	21	2.5	195025	10	MCMCX137	AL021117 Mus muscu
70	21	2.5	204153	9	AC074091	AC074091 Homo sapi
71	21	2.5	205224	10	AL671908	AL671908 Mouse DNA
72	21	2.5	241064	2	AC090827	AC090827 Homo sapi
c 73	20	2.4	20	6	AR178940	AR178940 Sequence
c 74	20	2.4	20	6	AR178942	AR178942 Sequence
c 75	20	2.4	22	6	AX088416	AX088416 Sequence
76	20	2.4	1136	4	RABCD86B	D49842 Rabbit mRNA
77	20	2.4	1533	8	AY034209	W01F01f1
c 78	20	2.4	2473	1	HILPIDA	X87416 H. influenza
c 79	20	2.4	11123	2	AC126749	AC126749 Homo sapi
c 80	20	2.4	38813	8	U29381	U29381 S. cerevisia
c 81	20	2.4	45211	3	UC9387	UC9387 Homo sapi
c 82	20	2.4	49737	2	AC103678	AC103678 Homo sapi
c 83	20	2.4	100969	2	AC098579	AC098579 Rat1us no
c 84	20	2.4	103138	2	AC112117	AC112117 Rat1us no
c 85	20	2.4	104934	2	AC120071	AC120071 Rat1us no
c 86	20	2.4	143712	9	HS9178N	AL031684 Human DNA
c 87	20	2.4	144045	2	AC129295	AC129295 Mus muscu
c 88	20	2.4	145440	9	AC096659	AC096659 Homo sapi
c 89	20	2.4	156218	2	AL772155	AL772155 Homo sapi
c 90	20	2.4	159358	2	AC111732	AC111732 Rat1us no
c 91	20	2.4	160915	2	AP001084	AP001084 Homo sapi
c 92	20	2.4	163556	9	AL592220	AL592220 Human DNA
c 93	20	2.4	165596	2	AC091588	AC091588 Homo sapi
c 94	20	2.4	171978	2	AC009669	AC009669 Homo sapi
95	20	2.4	173643	2	AC097991	AC097991 Rat1us no
c 96	20	2.4	176097	9	AL591438	AL591438 Human DNA
c 97	20	2.4	183422	2	AC006905	AC006905 Caenorhab
c 98	20	2.4	188993	2	AC109656	AC109656 Rat1us no
c 99	20	2.4	194179	2	AC103882	AC103882 Homo sapi
100	20	2.4	207870	10	AL669900	AL669900 Mouse DNA

ALIGNMENTS

```

RESULT 1
AF106827          1795 bp      mRNA      linear      MAM 14-DEC-1999
LOCUS             AF106827          1795 bp      mRNA      linear      complete cds.
DEFINITION       Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.
ACCESSION        AF106827
VERSION          AF106827.1  GI:572518
KEYWORDS
SOURCE
ORGANISM
Canis familiaris.
Canis familiaris.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
REFERENCE
1 (bases 1 to 1795)
Yang, S. and Sim, G.-K.
New forms of dog CD80 and CD86 transcripts that encode secreted B7
molecules
Immunogenetics 50 (5-6), 349-353 (1999)
JOURNAL
MEDLINE
20093996
PUBMED
10630300
REFERENCE
2 (bases 1 to 1795)
Yang, S. and Sim, G.-K.
Direct Submission
Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825
JOURNAL
SHARP Point Drive, Fort Collins, CO 80525, USA
FEATURES
Source
1..1795
/organism="Canis familiaris"
/db_xref="taxon:9615"
/cell_type="peripheral blood mononuclear cells"
1..1795
/gene="CD86"
1..6
/gene="CD86"
7..849
CDS

```

QY 781 GAAGCCAGTGTGTTAATTCAGACAGCTTCAGGCGACAAAGTACTACAGATT 840
 LOCUS |||||||
 Db 787 GAAGCCAGTGTGTTAATTCAGACAGCTTCAGGCGACAAAGTACTACAGATT 846

RESULT 2
 AF106826 1897 bp mRNA linear MAM 14-DEC-1999
 LOCUS Canis familiaris B7-2 protein (CD86) mRNA, complete cds.
 AF106826
 VERSION AF106826.1 GI:6572516
 KEYWORDS
 SOURCE Canis familiaris.
 ORGANISM Canis familiaris.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.

REFERENCE
 1 (bases 1 to 1897)
 Yang,S. and Sim,G.-K.
 TITLE New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules
 JOURNAL Immunogenetics 50 (5-6), 349-353 (1999)
 MEDLINE 20093996
 PUBMED 10630300
 REFERENCE 2 (bases 1 to 1897)
 Yang,S. and Sim,G.-K.
 AUTHORS Direct Submission
 JOURNAL Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
 source
 1..1897
 /organism="Canis familiaris"
 /db_xref="taxon:9615"
 /cell_type="peripheral blood mononuclear cells"
 1..1897
 /gene="CD86"
 1..5
 /gene="CD86"
 6..995
 /gene="CD86"
 /function="counter-receptor for CD28 and CD152 (CTLA4)"
 /codon_start=1
 /product="B7-2 protein"
 /protein_id="AF17297.1"
 /db_xref="GI:6572517"
 /translation="MYLCRMELNLIIFVMTLLLYGAASMSQAYFNKGTGELPCHPTN
 SONSLDELVWEMODDKLYLYELFRKGNPNVHLYKGRSPDNMTLRHNIQI
 KKGGLVOCPEYHHKPKGLVPMHOMNSDLYLAFSPELYMVSNRKNSGTLNLTSS
 IGGYPERKEMFLVKTENSTKTDYMKRSQNNVTELYVSLVSFEASVSLFC
 VLQESMKLPESLYNIDARTKPTPDGDLIMIALVLMVLICGVFPLTKRRKKQ
 PGSHCEETNKVKRKESEDTKERVRYHETERSDEACVNIKTSAGSDNSTQF"
 996..1897
 /gene="CD86"
 3'UTR

BASE COUNT 585 a 400 c 383 g 529 t
 ORIGIN

Query Match 83.8%; Score 704; DB 4; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGTATCTCAGATCAGTANGAAGTGAATATCAATCTCTTTGTGATGACCCCTGCTC 60
 |||||||
 Db 6 ATGTATCTCAGATCAGTANGAAGTGAATATCAATCTCTTTGTGATGACCCCTGCTC 65

QY 61 TATGCTGCTCTTCATGAGAGTCAAGCATATTTCAACAAGACTGGAGAATGCCATGC 120
 |||||||
 Db 66 TATGCTGCTCTTCATGAGAGTCAAGCATATTTCAACAAGACTGGAGAATGCCATGC 125

QY 121 CATTTTAAATTTCTCAAAACATATAGCCTGATGAGTTGAGTGTGTTGGCAGACACAG 180
 |||||||
 Db 126 CATTTTAAATTTCTCAAAACATATAGCCTGATGAGTTGAGTGTGTTGGCAGACACAG 185

QY 181 GATAAGCTGTTCTGTACGAGCTATACAGAGCAAAAGAACCCCTCAAAATGTTCAATGC 240

Db 186 GATAAGCTGTTCTGTACGAGCTATACAGAGCAAAAGAACCCCTCAAAATGTTCAATGC 245
 |||||||
 QY 241 AAGTATAGGGCCGACACAGCTTTTACAAAGCAATTTGGACCCCTGAGACTCCATATATT 300
 |||||||
 Db 246 AAGTATAGGGCCGACACAGCTTTTACAAAGCAATTTGGACCCCTGAGACTCCATATATT 305

QY 301 CAGATCAAGGACAAAGGCTTGTATCAATGTTTCGTTCAATTAAGSGCCCAAAGACTC 360
 |||||||
 Db 306 CAGATCAAGGACAAAGGCTTGTATCAATGTTTCGTTCAATTAAGSGCCCAAAGACTC 365

QY 361 GTTCCCATGACACAGATGATTTCTGACCTATCAGTGTCTTAACTTCACTCAACCTGAA 420
 |||||||
 Db 366 GTTCCCATGACACAGATGATTTCTGACCTATCAGTGTCTTAACTTCACTCAACCTGAA 425

QY 421 ATTAATGTACTCTTAATTAAGACAAATTTGTCATCATTAATTAATTAATTAATTAATTA 480
 |||||||
 Db 426 ATTAATGTACTCTTAATTAAGACAAATTTGTCATCATTAATTAATTAATTAATTAATTA 485

QY 481 ATTAAGTGTACCCAGAACCCAGAGATGATTTTGTGTTAAACCGAGATTTCAAGT 540
 |||||||
 Db 486 ATTAAGTGTACCCAGAACCCAGAGATGATTTTGTGTTAAACCGAGATTTCAAGT 545

QY 541 ACTAATGATGATCTGTATGAAGAATCTCAAAATATATGTCACGAACCTTACACGTT 600
 |||||||
 Db 546 ACTAATGATGATCTGTATGAAGAATCTCAAAATATATGTCACGAACCTTACACGTT 605

QY 601 TCTATCAGCTGTGCTTCCTGACCTCCCTGAGACACATGAGATCTGTCGTCGTCG 660
 |||||||
 Db 606 TCTATCAGCTGTGCTTCCTGACCTCCCTGAGACACATGAGATCTGTCGTCGTCG 665

QY 661 CAACCTGAGTCAATGAAAGCTTCCCTCCCTACCTTAATATATAGA 704
 |||||||
 Db 666 CAACCTGAGTCAATGAAAGCTTCCCTCCCTACCTTAATATATAGA 709

RESULT 3
 AF157827 1138 bp mRNA linear MAM 08-MAY-2000
 LOCUS Felis catus CD86 antigen (CD86) mRNA, complete cds.
 AF157827
 DEFINITION
 ACCESSION AF157827
 VERSION AF157827.1 GI:5381423
 KEYWORDS
 SOURCE Felis catus.
 ORGANISM Felis catus.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE
 1 (bases 1 to 1138)
 Choi,I.-S., Hash,S.M., Winslow,B.J. and Collisson,E.W.
 TITLE Sequence analyses of feline B7 costimulatory molecules
 JOURNAL Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)
 MEDLINE 20180222
 PUBMED 10713336

REFERENCE
 2 (bases 1 to 1138)
 Choi,I.-S., Hash,S., Winslow,B.J. and Collisson,E.W.
 AUTHORS Direct Submission
 JOURNAL Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M University, 1197 Rm. 222, College Station, TX 77843, USA

FEATURES
 source
 1..1138
 /organism="Felis catus"
 /db_xref="taxon:9685"
 1..1138
 /gene="CD86"
 63..1052
 /gene="CD86"
 /note="B7-2 antigen"
 /codon_start=1
 /product="CD86 antigen"
 /protein_id="AAD42974.1"
 /db_xref="GI:5381424"
 /translation="WGICDSTWGISHTLLVALLISGVSKSQAAYFNKGTGELPCHPT
 NSONTSLDELVWEMODDKLYLYELFRKGNPNVHLYKGRSPDNMTLRHNIQI

IKDKGTYHCFTIHYKGPGLVPMHOMSSDLVLANFSOPETITVTSNRTENSIIINLTCS
 SIOGYPERKEMVQPLNTENSTTKYDTVMKSSQNNVTLLVNVISISLPFSVEPAHNVSVF
 CALKLETLMLSLPENNIDAPKDKDEQGHFIATAVLVMEVFCGMSVFKTLRKRR
 KKQGPSHECETIKRERESKOTNERVYHVPERSDEACQVNLTKTASGDKNQ"

BASE COUNT 388 a 245 c 246 g 289 t

Query Match 7.3%; Score 61; DB 4; Length 1138;
 Best Local Similarity 100.0%; Pred. No. 8e-23;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAGAGCTATTTCAACAGACTGAGACTGCCATGCAATTTTACAA 130
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 136 CTTCCATGAGAGCTATTTCAACAGACTGAGACTGCCATGCAATTTTACAA 195

QY 131 A 131
 |
 DB 196 A 196

RESULT 4
 AB030652
 LOCUS 1270 bp mRNA linear MAM 01-MAR-2001
 DEFINITION Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
 complete cds.

ACCESSION AB030652.1 GI:9796387
 VERSION AB030652.1
 KEYWORDS B-lymphocyte activation antigen B7-2 (CD86).
 SOURCE Felis catus peripheral blood mononuclear cell cDNA to mRNA.
 ORGANISM Felis catus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE 1 (sites)
 AUTHORS Nishimura,Y., Shimojima,M., Miyazawa,T., Sato,E., Nakamura,K.,
 Izumiya,Y., Ikeda,Y., Mikami,T. and Takahashi,E.
 TITLE Molecular cloning of the cDNAs encoding the feline B-lymphocyte
 activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
 interact with human CTLA4-Ig
 JOURNAL Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
 MEDLINE 20485322
 REFERENCE 2 (bases 1 to 1270)
 AUTHORS Nishimura,Y.
 TITLE Direct Submission
 JOURNAL Submitted (31-JUL-1999) Yorihiro Nishimura, Faculty of Agriculture,
 The University of Tokyo, Department of Veterinary Microbiology;
 1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan
 (E-mail:yorihiro@crocus.ocn.ne.jp, Tel:+81-3-5841-5396,
 Fax:+81-3-5841-8184)
 COMMENT Sequence updated (08-Jun-2000).
 FEATURES Location/Qualifiers

source
 1..1270
 /organism="Felis catus"
 /db_xref="taxon:9685"
 /cell_type="peripheral blood mononuclear cell"
 1..1270
 /gene="CD86"
 240..1238
 /gene="CD86"
 /codon_start=1
 /product="B-lymphocyte activation antigen B7-2 (CD86)"
 /protein_id="BAB11688.1"
 /db_xref="GI:9796387"

gene
 1..1270
 /gene="CD86"
 240..1238
 /gene="CD86"
 /codon_start=1
 /product="B-lymphocyte activation antigen B7-2 (CD86)"
 /protein_id="BAB11688.1"
 /db_xref="GI:9796387"

polyA.signal

BASE COUNT 378 a 281 c 260 g 351 t
 ORIGIN

Query Match 7.3%; Score 61; DB 4; Length 1270;
 Best Local Similarity 100.0%; Pred. No. 7.9e-23;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAGAGCTATTTCAACAGACTGAGACTGCCATGCAATTTTACAA 130
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 313 CTTCCATGAGAGCTATTTCAACAGACTGAGACTGCCATGCAATTTTACAA 372

QY 131 A 131
 |
 DB 373 A 373

RESULT 5
 AY007704
 LOCUS 2830 bp mRNA linear MAM 03-OCT-2001
 DEFINITION Felis catus CD86 (CD86) mRNA, complete cds.
 ACCESSION AY007704
 VERSION AY007704.1 GI:15418725
 KEYWORDS

SOURCE
 ORGANISM

Felis catus.
 Felis catus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
 REFERENCE 1 (bases 1 to 2830)
 AUTHORS Yang,S., Sellins,K.S., Powell,T., Stoneman,B. and Sim,G.K.
 TITLE Novel transcripts encoding secreted forms of feline CD80 and CD86
 costimulatory molecules
 JOURNAL Vet. Immunol. Immunopathol. 81 (1-2), 15-21 (2001)
 MEDLINE 21390213
 PUBMED 11498243
 REFERENCE 2 (bases 1 to 2830)
 AUTHORS Yang,S.
 TITLE Direct Submission
 JOURNAL Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
 Prospect Parkway, Ft Collins, CO 80525, USA
 FEATURES Location/Qualifiers

source
 1..2830
 /organism="Felis catus"
 /db_xref="taxon:9685"
 1..2830
 /gene="CD86"
 179..1177
 /gene="CD86"
 /note="CD28/CTLA4 counter receptor; B7-2 protein"
 /codon_start=1
 /product="CD86"
 /protein_id="AF23342.1"
 /db_xref="GI:15418726"

translation="MGICDSTGSLHTLLVALLISGVSSKSSQAVFNKGTGELPCHEFT
 NSQNTSLDELVFWQDDKLVLYELIFRGENPQNVHLKRGTSFQDKNMTLRLHNVQ
 IKDKGTVHCFTIHYKGPGLVPMHOMSSDLVLANFSQPEITVTSNRTENSIIINLTCS
 SIOGYPERKEMVQPLNTENSTTKYDTVMKSSQNNVTLLVNVISISLPFSVEPAHNVSVF
 CALKLETLMLSLPENNIDAPKDKDEQGHFIATAVLVMEVFCGMSVFKTLRKRR
 KKQGPSHECETIKRERESKOTNERVYHVPERSDEACQVNLTKTASGDKSTTHP"
 BASE COUNT 877 a 570 c 586 g 797 t
 ORIGIN

Query Match 7.3%; Score 61; DB 4; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 7.4e-23;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAGAGCTATTTCAACAGACTGAGACTGCCATGCAATTTTACAA 130
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 252 CTTCCATGAGAGCTATTTCAACAGACTGAGACTGCCATGCAATTTTACAA 311

QY 131 A 131
 |
 DB 312 A 312

RESULT 6
 AK002781

LOCUS AX002781 738 bp DNA linear PAT 21-AUG-2000
 DEFINITION Sequence 4 from Patent WO9855607.
 ACCESSION AX002781
 VERSION AX002781.1 GI:9885109
 KEYWORDS
 SOURCE synthetic construct.
 ORGANISM synthetic construct.
 REFERENCE 1 (bases 1 to 738)
 AUTHORS Bebbington,C.R. and Carroll,M.W.
 TITLE Patent: WO 9855607-A 4 10-DEC-1998;
 JOURNAL BEBBINGTON CHRISTOPHER ROBERT (GB); CARROLL MILES WILLIAM (GB)
 FEATURES
 source 1..738
 /organism="synthetic construct"
 /db_xref="taxon:32630"
 1..>738
 /note="unnamed protein product"
 /codon_start=1
 /protein_id="CAC04193.1"
 /db_xref="GI:9885110"
 /translation="MGLSNILFVMAFLSGAAPKIQAYFNETADLPQFANSQNSL
 SELVYFMDOENLVINEVYLKGEKEDSVSHKMGRTSPDSMTLRILNLQIKDGLY
 OCTIHHKPTGMI RIHOMNSLSVLANFSQPEIYISINTEVYINLCSSIHGYPEP
 KMSVLTFRKNTIEYDGMOKSDONVETLYDVSLSVSEFDVSNMTIFCIETBDK
 TRLSSPFIELEDDPPDPDHPGGGGS"
 BASE COUNT 215 a 168 c 148 g 207 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 738;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGAATA 423
 |||||||
 Db 373 TCAGTCTGCTTAACCTCACTCACTGAATA 405

RESULT 7
 AX149548 738 bp DNA linear PAT 08-JUN-2001
 LOCUS AX149548
 DEFINITION Sequence 9 from Patent WO0136486.
 ACCESSION AX149548
 VERSION AX149548.1 GI:14347987
 KEYWORDS
 SOURCE synthetic construct.
 ORGANISM synthetic construct.
 REFERENCE 1 (bases 1 to 738)
 AUTHORS Kingsman,A.O., Kingsman,S.M., Bebbington,C.R., Carroll,M.W.,
 Billard,F.M. and Myers,K.A.
 TITLE Antibodies
 JOURNAL Patent: WO 0136486-A 9 25-MAY-2001;
 Oxford Biomedica (UK) Limited (GB)
 FEATURES
 source 1..738
 /organism="synthetic construct"
 /db_xref="taxon:32630"
 /note="B7.2.574.1"
 BASE COUNT 215 a 168 c 148 g 207 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 738;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGAATA 423
 |||||||
 Db 373 TCAGTCTGCTTAACCTCACTCACTGAATA 405

RESULT 8
 ARI47737 751 bp DNA linear PAT 08-AUG-2001
 LOCUS ARI47737
 DEFINITION Sequence 34 from patent US 6225042.
 ACCESSION ARI47737
 VERSION ARI47737.1 GI:15111827
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 751)
 AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 6225042-A 34 01-MAY-2001;
 FEATURES
 source 1..751
 /organism="unknown"
 BASE COUNT 218 a 174 c 149 g 210 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGAATA 423
 |||||||
 Db 397 TCAGTCTGCTTAACCTCACTCACTGAATA 429

RESULT 9
 ARI59759 751 bp DNA linear PAT 17-OCT-2001
 LOCUS ARI59759
 DEFINITION Sequence 34 from patent US 6251627.
 ACCESSION ARI59759
 VERSION ARI59759.1 GI:16222532
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 751)
 AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 6251627-A 34 26-JUN-2001;
 FEATURES
 source 1..751
 /organism="unknown"
 BASE COUNT 218 a 174 c 149 g 210 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGAATA 423
 |||||||
 Db 397 TCAGTCTGCTTAACCTCACTCACTGAATA 429

RESULT 10
 ARI60451 751 bp DNA linear PAT 17-OCT-2001
 LOCUS ARI60451
 DEFINITION Sequence 34 from patent US 6255073.
 ACCESSION ARI60451
 VERSION ARI60451.1 GI:16224368
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 751)
 AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 6255073-A 34 03-JUL-2001;
 FEATURES
 Location/Qualifiers

source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTGGCTTGTACTTCACTGACCTGAATA 423
|||||
Db 397 TCAGTGGCTTGTACTTCACTGACCTGAATA 429

RESULT 11
LOCUS AR202407 751 bp DNA linear PAT 20-APR-2002
DEFINITION Sequence 34 from patent US 6362001.
ACCESSION AR202407
VERSION AR202407.1 GI:20256946
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 751)
AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Method for producing a synthetic antigen presenting transformed Drosophila cell
JOURNAL Patent: US 6362001-A 34 26-MAR-2002;
FEATURES
source Location/Qualifiers
1..751
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTGGCTTGTACTTCACTGACCTGAATA 423
|||||
Db 397 TCAGTGGCTTGTACTTCACTGACCTGAATA 429

RESULT 12
LOCUS AX027005 972 bp DNA linear PAT 16-SEP-2000
DEFINITION Sequence 2 from Patent W00037102.
ACCESSION AX027005
VERSION AX027005.1 GI:10188040
KEYWORDS
SOURCE human.
ORGANISM Homo sapiens
REFERENCE 1 (bases 1 to 972)
AUTHORS Rogers,N.J., Dorling,A. and Lechler,R.I.
TITLE Immunosuppression
JOURNAL Patent: WO 0037102-A 2 29-JUN-2000;
ROGERS NICHOLA JANE (GB) ; DORLING ANTHONY (GB) ; ML LAB PLC (GB) ;
LECHLER ROBERT IAN (GB)
FEATURES
source Location/Qualifiers
1..972
/organism="Homo sapiens"
/db_xref="taxon:9606"
BASE COUNT 304 a 204 c 194 g 270 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 972;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTGGCTTGTACTTCACTGACCTGAATA 423

Db 373 TCAGTGGCTTGTACTTCACTGACCTGAATA 405
|||||

RESULT 13
LOCUS AR147736 1002 bp DNA linear PAT 08-AUG-2001
DEFINITION Sequence 33 from patent US 6225042.
ACCESSION AR147736
VERSION AR147736.1 GI:15111826
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 1002)
AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6225042-A 33 01-MAY-2001;
FEATURES
source Location/Qualifiers
1..1002
BASE COUNT 309 a 215 c 203 g 275 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTGGCTTGTACTTCACTGACCTGAATA 423
|||||
Db 397 TCAGTGGCTTGTACTTCACTGACCTGAATA 429

RESULT 14
LOCUS AR159758 1002 bp DNA linear PAT 17-OCT-2001
DEFINITION Sequence 33 from patent US 6251627.
ACCESSION AR159758
VERSION AR159758.1 GI:16222530
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 1002)
AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6251627-A 33 26-JUN-2001;
FEATURES
source Location/Qualifiers
1..1002
BASE COUNT 309 a 215 c 203 g 275 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTGGCTTGTACTTCACTGACCTGAATA 423
|||||
Db 397 TCAGTGGCTTGTACTTCACTGACCTGAATA 429

RESULT 15
LOCUS AR160450 1002 bp DNA linear PAT 17-OCT-2001
DEFINITION Sequence 33 from patent US 6255073.
ACCESSION AR160450
VERSION AR160450.1 GI:16224366
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 1002)

AUTHORS Cai, Z., Sprent, J., Brummark, A., Jackson, M. and Peterson, P. A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 6255073-A 33 03-JUL-2001;
 FEATURES Location/Qualifiers
 source 1..1002
 /organism="unknown"
 BASE COUNT 309 a 215 c 203 g 275 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
 Best Local Similarity 100.0%; Pred. No. 7.7e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 423
 |||||||
 Db 397 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 429

RESULT 16
 AR202406 1002 bp DNA linear PAT 20-APR-2002
 LOCUS AR202406 Sequence 33 from patent US 6362001.
 DEFINITION AR202406
 ACCESSION AR202406
 VERSION AR202406.1 GI:20256945
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 1002)
 AUTHORS Cai, Z., Sprent, J., Brummark, A., Jackson, M. and Peterson, P. A.
 TITLE Method for producing a synthetic antigen presenting transformed
 JOURNAL Drosophila cell
 FEATURES Patent: US 6362001-A 33 26-MAR-2002;
 source Location/Qualifiers
 1..1002
 /organism="unknown"
 BASE COUNT 309 a 215 c 203 g 275 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
 Best Local Similarity 100.0%; Pred. No. 7.7e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 423
 |||||||
 Db 397 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 429

RESULT 17
 AF344851 1044 bp mRNA linear PRI 06-SEP-2001
 LOCUS AF344851 Macaca nemestrina CD86 protein precursor, mRNA, complete cds.
 DEFINITION AF344851
 ACCESSION AF344851
 VERSION AF344851.1 GI:13655490
 KEYWORDS
 SOURCE Macaca nemestrina.
 ORGANISM Macaca nemestrina
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 Cercopithecinae; Macaca.
 REFERENCE 1 (bases 1 to 1044)
 AUTHORS Villinger, F., Bostik, P., Mayne, A., King, C. L., Genain, C. P.,
 Weiss, W. R. and Ansari, A. A.
 TITLE Cloning, sequencing, and homology analysis of nonhuman primate
 Fas/Fas-ligand and co-stimulatory molecules
 JOURNAL Immunogenetics 53 (4), 315-328 (2001)
 MEDLINE 21383618
 PUBMED 11491535
 REFERENCE 2 (bases 1 to 1044)
 AUTHORS Villinger, F.
 TITLE Direct Submission
 JOURNAL Submitted (02-FEB-2001) Pathology and Laboratory Medicine, Emory
 University School of Medicine, Winship Cancer Institute, 1365B
 University School of Medicine, Winship Cancer Institute, 1365B

Clifton Rd, Atlanta, GA 30322, USA
 FEATURES
 source Location/Qualifiers
 1..1044
 /organism="Macaca nemestrina"
 /db_xref="taxon:9545"
 6..977
 /note="B7.2"
 /codon_start=1
 /product="CD86 protein precursor"
 /protein_id="AAK37611.1"
 /db_xref="GI:13655491"
 /translation="MGLSNILFYMAFLLSGAADPLKQAYFNETADLPCCFANSONSL
 SELVFWQNOENLVNLENYLGEKEFDVSHKYGRTSPDESWTLRLNQLDKGILY
 OCILHHRPTGMRIRHOMNSELVLANFSDPEIYPSINTENNYINLTGSSIHGYDEP
 EKMSVLLRTKNSITLEDYGVQMSDNTYELDYISISVSFPVYTSNMTIFCYLETDK
 TQLSSPFSIELEDDPPDPDHITAVTAVLPVAVICVAFCLILMKMKKKKPPRNSYKC
 GTNTEREESDQTKRKRIKINVERPSDAQCVRFSKLKPPSCDKSDTRF"
 sig_peptide 6..56
 BASE COUNT 320 a 230 c 208 g 286 t
 ORIGIN

Query Match 3.9%; Score 33; DB 9; Length 1044;
 Best Local Similarity 100.0%; Pred. No. 7.7e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 423
 |||||||
 Db 378 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 410

RESULT 18
 AF344857 1048 bp mRNA linear PRI 06-SEP-2001
 LOCUS AF344857 Macaca mulatta CD86 protein precursor, mRNA, complete cds.
 DEFINITION AF344857
 ACCESSION AF344857
 VERSION AF344857.1 GI:13650011
 KEYWORDS
 SOURCE Macaca mulatta.
 ORGANISM Macaca mulatta
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 Cercopithecinae; Macaca.
 REFERENCE 1 (bases 1 to 1048)
 AUTHORS Villinger, F., Bostik, P., Mayne, A., King, C. L., Genain, C. P.,
 Weiss, W. R. and Ansari, A. A.
 TITLE Cloning, sequencing, and homology analysis of nonhuman primate
 Fas/Fas-ligand and co-stimulatory molecules
 JOURNAL Immunogenetics 53 (4), 315-328 (2001)
 MEDLINE 21383618
 PUBMED 11491535
 REFERENCE 2 (bases 1 to 1048)
 AUTHORS Villinger, F.
 TITLE Direct Submission
 JOURNAL Submitted (02-FEB-2001) Pathology and Laboratory Medicine, Emory
 University School of Medicine, Winship Cancer Institute, 1365B
 Clifton Rd, Atlanta, GA 30322, USA
 FEATURES
 source Location/Qualifiers
 1..1048
 /organism="Macaca mulatta"
 /db_xref="taxon:9544"
 19..990
 /note="B7.2"
 /codon_start=1
 /product="CD86 protein precursor"
 /protein_id="AAK37560.1"
 /db_xref="GI:13650012"
 /translation="MGLSNILFYMAFLLSGAADPLKQAYFNETADLPCCFANSONSL
 SELVFWQNOENLVNLENYLGEKEFDVSHKYGRTSPDESWTLRLNQLDKGILY
 OCILHHRPTGMRIRHOMNSELVLANFSDPEIYPSINTENNYINLTGSSIHGYDEP
 EKMSVLLRTKNSITLEDYGVQMSDNTYELDYISISVSFPVYTSNMTIFCYLETDK
 TQLSSPFSIELEDDPPDPDHITAVTAVLPVAVICVAFCLILMKMKKKKPPRNSYKC
 GTNTEREESDQTKRKRIKINVERPSDAQCVRFSKLKPPSCDKSDTRF"
 sig_peptide 19..69

[illegible]

```

variation      /replace="g"
458            /replace="c"
variation      502
                /replace="c"
variation      504
                /replace="t"
variation      519
                /replace="t"
variation      621
                /replace="t"
variation      690;.833
                /note="deletion of transmembrane domain"
                /replace="t"
variation      784
                /replace="c"
variation      856
                /replace="t"
variation      961;.962
                /replace="c"
variation      970
                /replace="g"
variation      1019
                /replace="c"

BASE COUNT    323 a      234 c      208 g      297 t
ORIGIN
Query Match   3.9%; Score 33; DB 9; Length 1062;
Best Local Similarity .100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGGCTTGCTAACTTCAGTCACCTGAAATA 423
    |||
Db 378 TCAGGCTTGCTAACTTCAGTCACCTGAAATA 410

RESULT 20
LOCUS AF344861 1062 bp mRNA linear PRI 06-SEP-2001
DEFINITION Cercopithecus aethiops CD86 protein mRNA, complete cds.
ACCESSION AF344861
VERSION AF344861.1 GI:13650019
KEYWORDS
SOURCE
ORGANISM Cercopithecus aethiops.
          Cercopithecus aethiops
          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
          Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
          Cercopithecidae; Cercopithecus.
REFERENCE 1 (bases 1 to 1062)
AUTHORS Villinger,F., Bostik,P., Wayne,A., King,C.L., Genain,C.P.,
          Weiss,W.R. and Ansari,A.A.
          Cloning, sequencing, and homology analysis of nonhuman primate
          Fas/Fas-ligand and co-stimulatory molecules
          Immunogenetics 53 (4), 315-328 (2001)

TITLE
JOURNAL
MEDLINE 21383618
PUBMED 11491535
REFERENCE 2 (bases 1 to 1062)
AUTHORS Villinger,F.
TITLE Direct Submission
JOURNAL Submitted (02-FEB-2001) Pathology and Laboratory Medicine, Emory
          University School of Medicine, Winship Cancer Institute, 1365B
          Clifton Rd, Atlanta, GA 30322, USA

FEATURES
source
1..1062
   location/Qualifiers
   /organism="Cercopithecus aethiops"
   /db_xref="taxon:9534"
   6..977
   /note="B7.2"
   /codon_start=1
   /product="CD86 protein"
   /protein_id="AAK37543.1"
   /db_xref="GI:13650020"
   /translation="MGLINILFVNAFLISGAAPIKIDAYENETADLPCCGFANSNKRSL"

```

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:04 ; Search time 231.449 Seconds
(without alignments)
8173.182 Million cell updates/sec

Title: US-09-646-561-19

Perfect score: 840

Sequence: 1 atgatacagatgcactat.....acacagctacacagttc 840

Scoring table: OLIGO-NUC
Gapop 60.0 , Gapext 60.0

Searched: 2185239 seqs, 112599159 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: listing first 100 summaries

Database : N.Geneseq_101002.*

1: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT.*
2: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT.*
3: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT.*
4: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT.*
5: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT.*
6: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT.*
7: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT.*
8: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT.*
9: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT.*
10: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT.*
11: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT.*
12: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT.*
13: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT.*
14: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT.*
15: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT.*
16: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT.*
17: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT.*
18: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT.*
19: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT.*
20: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT.*
21: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT.*
22: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT.*
23: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT.*
24: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	840	100.0	840	20	AAZ27923
2	840	100.0	840	20	AAZ27924
3	840	100.0	1795	20	AAZ27921
4	840	100.0	1795	20	AAZ27922
5	704	83.8	987	20	AAZ27915
6	704	83.8	987	20	AAZ27916
7	704	83.8	1897	20	AAZ27913
8	704	83.8	1897	20	AAZ27914
9	61	7.3	996	20	AAZ27931

10	61	7.3	996	20	AAZ27932
11	61	7.3	1080	21	AAZ34838
12	61	7.3	1080	21	AAZ34785
13	61	7.3	1080	24	AAZ46840
14	61	7.3	1080	24	ABK48230
15	61	7.3	2830	20	AAZ27929
16	61	7.3	2830	20	AAZ27930
17	44	5.2	764	18	AAZ62939
18	44	5.2	1050	21	AAZ4661
19	42	5.0	359	20	AAZ27935
20	42	5.0	359	20	AAZ27936
21	42	5.0	509	20	AAZ27933
22	42	5.0	509	20	AAZ27934
23	33	3.9	788	20	AAZ80293
24	33	3.9	738	20	AAZ89731
25	33	3.9	831	19	AAZ03230
26	33	3.9	972	20	AAZ83208
27	33	3.9	972	20	AAZ25510
28	33	3.9	1120	16	AAZ81351
29	33	3.9	1120	18	AAZ49181
30	33	3.9	1120	20	AAZ55784
31	33	3.9	1120	21	AAZ84049
32	33	3.9	1120	24	AAZ27968
33	33	3.9	1424	21	AAZ29321
34	33	3.9	1424	24	ABK84193
35	33	3.9	1424	24	ABL63096
36	33	3.9	1424	24	ABL64678
37	33	3.9	1428	16	AAZ85873
38	33	3.9	2205	18	AAZ72616
39	33	3.8	330	18	AAZ49197
40	32	3.8	330	21	AAZ84082
41	32	3.8	403	20	AAZ89569
42	27	3.2	28	24	ABK66513
43	25	3.0	25	21	AAZ34861
44	25	3.0	25	21	AAZ34863
45	25	3.0	25	21	AAZ34815
46	25	3.0	25	21	AAZ34815
47	25	3.0	25	24	AAZ46866
48	25	3.0	25	24	AAZ46866
49	25	3.0	25	24	ABK67572
50	25	3.0	25	24	ABK67574
51	24	2.9	35	20	AAZ27963
52	24	2.9	54	19	AAZ33748
53	24	2.9	54	19	AAZ33751
54	24	2.9	62	16	AAZ81391
55	24	2.9	62	16	AAZ49605
56	24	2.9	62	21	AAZ84089
57	24	2.9	63	16	AAZ81390
58	24	2.9	63	18	AAZ49604
59	24	2.9	63	18	AAZ84088
60	24	2.9	306	18	AAZ49198
61	24	2.9	306	21	AAZ84083
62	21	2.5	175	21	AAZ38015
63	21	2.5	210	16	AAZ01038
64	21	2.5	582	12	AAZ11307
65	21	2.5	942	19	AAZ9926
66	21	2.5	2358	20	AAZ18743
67	21	2.5	2577	20	AAZ35740
68	21	2.5	2599	21	AAZ64367
69	21	2.5	2880	22	AAZ26689
70	21	2.5	2954	22	AAZ14356
71	21	2.5	3013	22	ABA06594
72	21	2.5	3032	22	AAZ98711
73	21	2.5	3032	22	AAZ22857
74	21	2.5	3088	20	AAZ35741
75	21	2.5	3236	24	AAZ99298
76	21	2.5	3316	21	AAZ76526
77	21	2.5	3336	21	AAZ74445
78	21	2.5	3405	22	AAZ22621
79	21	2.5	3677	22	ABA09142
80	20	2.4	20	20	AAZ27949
81	20	2.4	20	22	AAZ32989
82	20	2.4	20	22	AAZ32991

Complementary str
Feline CB86 (B7-2)
Cat CB86 (B7-2) cD
Feline CB86 coding
cDNA encoding feli
Feline B7-2 protei
Feline B7-2 gene c
Chimeric human/po
Pig costimulatory
Feline B7-2 protei
Feline B7-2 gene (F
Feline B7-2 protei
Feline B7-2 gene (F
Human B7-2 extrace
Nucleotide sequenc
DNA encoding CB86
B7-2 cDNA. Homo s
Human co-stimulat
Human B lymphocyte
Human B lymphocyte
Human B7-2 antigen
Human B lymphocyte
Human B7-2 cDNA.
Human B7-2 cDNA.
Human cDNA differe
Breast cancer rela
Stomach cancer rela
B70 type B antigen
Human cervical can
Human B lymphocyte
Human B7-2 variabl
EST clone CR506.
Human gene specif
Feline CB86 cDNA 5
Feline CB86 cDNA n
Cat CB86 ligand cd
Cat CB86 ligand cd
Feline CB86 PCR pr
Feline CB86 PCR pr
Feline CB86 nested
Feline CB80 nested
Canine B7-25 DNA a
Ig-like V domain a
Ig-like V domain a
Reverse primer for
Human B7-2 Ig cons
Human B7-219C doma
Reverse primer for
Oncom gene signal
Human B7-2 gene signal
Human B lymphocyte
Human B7-2 constan
Jurkat cell cDNA c
Human B7-2 exon 5.
Human cDNA clone (R
Rat CB86 coding se
cDNA encoding low-
cDNA encoding a pr
Human vesicle asso
Human cDNA encodin
Human cDNA sequenc
Human cDNA seq ID
Human EST-derived
Human cDNA encodin
cDNA encoding a pr
cDNA of the human
Human OREX ORF2081
Human PRO14 nucleo
Human cDNA encodin
Human STR protein
Feline B7-2 gene s
Human B7-2 antisen
Human B7-2 antisen

ALIGNMENTS

Query Match	100.0%	Score 840	DB 20	Length 840
-------------	--------	-----------	-------	------------

QY	1	ATGATCTCAGATGCACCTGTGGAAAGTAAATCATCTCTTTGGATACACCTCTCTGCTC	60
Db	1	ATGATCTCAGATGCACCTGTGGAAAGTAAATCATCTCTTTGGATACACCTCTCTGCTC	60
QY	61	TATGTCGCTGCTTCCATGGAAGTCAGCATATTTCTCAACAGACCTGGAACTGCCATGC	120
Db	61	TATGTCGCTGCTTCCATGGAAGTCAGCATATTTCTCAACAGACCTGGAACTGCCATGC	120
QY	121	CATTTTACAAATTTCTCAAAACATTAAGCCTGGATGAGTTGGTAGCTTTTGGCAGACCGAG	180
Db	121	CATTTTACAAATTTCTCAAAACATTAAGCCTGGATGAGTTGGTAGCTTTTGGCAGACCGAG	180
QY	181	GATTAACCTGGTTCTGTACAGAGCTATACAGAGCAAGAAGAAACCCCTCAAAATGTTTCATCGC	240
Db	181	GATTAACCTGGTTCTGTACAGAGCTATACAGAGCAAGAAGAAACCCCTCAAAATGTTTCATCGC	240
QY	241	AAGTATAAAGGGCGGCACAAGCTTTGACAAAGAACAATTTGGACCTGTGAGACTCCATATATT	300
Db	241	AAGTATAAAGGGCGGCACAAGCTTTGACAAAGAACAATTTGGACCTGTGAGACTCCATATATT	300
QY	301	CAGATCAAGSACAAGGGCTGTATCATATGTTCCGTTCAATTAAGGGCCCAAGAGACTC	360
Db	301	CAGATCAAGSACAAGGGCTGTATCATATGTTCCGTTCAATTAAGGGCCCAAGAGACTC	360
QY	361	GTTCCCATGCACACAGATGATATCTGACCTATACAGTGCCTGTCACTTTCAGTCAACCTGAA	420
Db	361	GTTCCCATGCACACAGATGATATCTGACCTATACAGTGCCTGTCACTTTCAGTCAACCTGAA	420
QY	421	ATAATGGRACACTTCTTAATAGAAACAGAAAATTTCTGGCATCATTAATTTGACCTGCTCATCC	480
Db	421	ATAATGGRACACTTCTTAATAGAAACAGAAAATTTCTGGCATCATTAATTTGACCTGCTCATCC	480
QY	481	ATACAGAGTTACCCAGAAACCCAGAGAGATGTAATTTTTGGTAAAAACCGAGAAATTCAGT	540
Db	481	ATACAGAGTTACCCAGAAACCCAGAGAGATGTAATTTTTGGTAAAAACCGAGAAATTCAGT	540
QY	541	ACTAAGTATGATACACTGTCATGAGAAATCTCAAAATATATGTCACAGAACTCTACACAGTT	600
Db	541	ACTAAGTATGATACACTGTCATGAGAAATCTCAAAATATATGTCACAGAACTCTACACAGTT	600
QY	601	TCTATACAGTGTCTCTTCTCTCAGTCCCTGTAAGCAAGCAATGTGAGCAATCTCTGTCTCTG	660
Db	601	TCTATACAGTGTCTCTCTCTCAGTCCCTGTAAGCAAGCAATGTGAGCAATCTCTGTCTCTG	660
QY	661	CACACTTGAGTCAATGAACCTTCCCTCTACTTATATATATAGAAACCAACAAAGTGGAG	720
Db	661	CACACTTGAGTCAATGAACCTTCCCTCTACTTATATATATAGAAACCAACAAAGTGGAG	720
QY	721	AGAAAAGAAAGTGAAGCAGAACCAAGAAAAGAGTACGGTACCATGTGAAGCGAAAGATCTGAT	780
Db	721	AGAAAAGAAAGTGAAGCAGAACCAAGAAAAGAGTACGGTACCATGTGAAGCGAAAGATCTGAT	780
QY	781	GAAGCCAGGTGTGTTAACTATTTCGAACAGAGCTTCAGGCGCAACAGTACTACACAGTTT	840
Db	781	GAAGCCAGGTGTGTTAACTATTTCGAACAGAGCTTCAGGCGCAACAGTACTACACAGTTT	840

KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX OS Canis familiaris.
 XX PN WO947558-A2.
 XX 23-SEP-1999.
 XX PF 19-MAR-1999; 99WO-US06187.
 XX PR 19-MAR-1998; 98US-0078765.
 XX PR 17-APR-1998; 98US-0062597.
 XX PA (HESK-) HESKA CORP.
 XX PI Slim G, Yang S, Sellins KS;
 XX WPI; 1999-571822/48.
 XX DR
 XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating, e.g. autoimmune and atopic diseases
 XX PS Claim 1; Page 115; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

SQ Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;

Query Match 100.0%; Score 840; DB 20; Length 840;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 840; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGTATCTCGATGACGACTATGAGCAATGATCATCTCTTTGGATGACCCCTGCTC 60
 |||||||
 DB 840 ATGTATCTCGATGACGACTATGAGCAATGATCATCTCTTTGGATGACCCCTGCTC 781

QY 61 TATGGTCTGCTTCATGAGAGCTCAAGCATATTTCAACAGACTGAGAACCTGCATGC 120
 |||||||
 DB 780 TATGGTCTGCTTCATGAGAGCTCAAGCATATTTCAACAGACTGAGAACCTGCATGC 721

QY 121 CATTTTCAAAATTTCTCAAAACATAGGCTTGATGAGTTGATGTTTGGACGACGAC 180
 |||||||
 DB 720 CATTTTCAAAATTTCTCAAAACATAGGCTTGATGAGTTGATGTTTGGACGACGAC 661

QY 181 GATAAGCTGTTCTGTACGAGTATACAGAGGCAAGAGACCCCTCAAAATGTTTCATGC 240
 |||||||
 DB 660 GATAAGCTGTTCTGTACGAGTATACAGAGGCAAGAGACCCCTCAAAATGTTTCATGC 601

QY 241 AAGTATAGGCGCGACAAAGCTTTGACAAAGACATTTGACCCCTGAGACTCCATATATT 300
 |||||||
 DB 600 AAGTATAGGCGCGACAAAGCTTTGACAAAGACATTTGACCCCTGAGACTCCATATATT 541

QY 301 CAGATCAAGGACAAAGGCTTGTATCAATGTTTGGTTCATCATAAAGGCGCCCAAGGACTC 360
 |||||||
 DB 540 CAGATCAAGGACAAAGGCTTGTATCAATGTTTGGTTCATCATAAAGGCGCCCAAGGACTC 481

QY 361 GTTCCCTGACGAGATGATTTGACCTTCACTGCTGTTCTGATCTCACTCACTCACTGAA 420
 |||||||
 DB 480 GTTCCCTGACGAGATGATTTGACCTTCACTGCTGTTCTGATCTCACTCACTCACTGAA 421

QY 421 ATATGCTAACTTCTAATAGACAAATTTGCGCATCATATATTTGACCTGCTCATCC 480
 |||||||
 DB 420 ATATGCTAACTTCTAATAGACAAATTTGCGCATCATATATTTGACCTGCTCATCC 361

QY 481 ATACAGGTTACCCGAGACCCCAAGGAGATGATTTTGGTAAACCGAGAAATTCAGT 540
 |||||||

DB 360 ATACAGGTTACCCGAGACCCCAAGGAGATGATTTTGGTAAACCGAGAAATTCAGT 301
 QY 541 ACTAGTATGATACCTGTCATGAGAAATTCGCAATATATGTCACAGAACTTCAAGCTT 600
 |||||||
 DB 300 ACTAGTATGATACCTGTCATGAGAAATTCGCAATATATGTCACAGAACTTCAAGCTT 241

QY 601 TCTATCAGCTTGTCCCTTTCACAGTCCCTGACAGCAATGAGCACTTCTGTGCTCG 660
 |||||||
 DB 240 TCTATCAGCTTGTCCCTTTCACAGTCCCTGACAGCAATGAGCACTTCTGTGCTCG 181

QY 661 CACTTGAGTCAATGAGAGCTTCCCTCCCTACCTTATATATGAAACCAACAAAGTGAG 720
 |||||||
 DB 180 CACTTGAGTCAATGAGAGCTTCCCTCCCTACCTTATATATGAAACCAACAAAGTGAG 121

QY 721 AGAAAGAAAGTGAAGCAGACCAAGAGAGTACGATACCATGTAAGGAAAGATCTGAT 780
 |||||||
 DB 120 AGAAAGAAAGTGAAGCAGACCAAGAGAGTACGATACCATGTAAGGAAAGATCTGAT 61

QY 781 GAAAGCCAGTGTGTTACATTTTCGAAAGACAGCTTCAGGCGCAACAGTACTACAGCTT 840
 |||||||
 DB 60 GAAAGCCAGTGTGTTACATTTTCGAAAGACAGCTTCAGGCGCAACAGTACTACAGCTT 1

RESULT 3
 AA227921
 ID AA227921 standard; DNA; 1795 BP.
 XX
 XX AA227921;
 AC 20-DEC-1999 (first entry)
 XX
 DT
 DE Canine B7-2S protein encoding DNA.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Canis familiaris.
 XX
 XX WO947558-A2.
 XX PN
 XX PD 23-SEP-1999.
 XX PF 19-MAR-1999; 99WO-US06187.
 XX PR 19-MAR-1998; 98US-0078765.
 XX PR 17-APR-1998; 98US-0062597.
 XX PA (HESK-) HESKA CORP.
 XX PI Slim G, Yang S, Sellins KS;
 XX WPI; 1999-571822/48.
 XX DR P-PSDB; AAIV41078.
 XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating, e.g. autoimmune and atopic diseases
 XX PS Claim 1; Page 109-111; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

SQ Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;

Query Match 100.0%; Score 840; DB 20; Length 1795;

RESULT	4
ID	AA227922/c
ID	AA227922 standard; DNA; 1795 BP.
XX	
AC	AA227922;
XX	
DT	20-DEC-1999 (first entry)
DE	Canine B7-2S gene complementary DNA sequence.
XX	
B7. CTLA4:	T cell costimulatory protein; dog; cat; autoimmune disease;
KM	allergic reaction; infectious disease; tumor development; canine;
KW	graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Query Match	100.0%;	Score 840;	DB 20;	Length 1795;
Best Local Similarity	100.0%;	Pred. No. 0;		
Matches 840;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

QY	1	ATATATCTCAGATGACACTATATGAAAGTAATAAATCTCTCTTTGTATGATACCCCTCCGTGC	60
Db	1789	ATGATCTCAGATGACACTATATGAAAGTAATAAATCTCTCTTTGTATGATACCCCTCCGTGC	1730
QY	61	TATGTCGTCGCTTCATGAAGAGTCAAGCATATTTTCAACAAGACGTGAGAACCTGCCATGTC	120
Db	1729	TATGTCGTCGCTTCATGAAGAGTCAAGCATATTTTCAACAAGACGTGAGAACCTGCCATGTC	1670
QY	121	CATTTTCACAATTTCTCAAAACATAAAGCTCGATGAGAGTGGTAGTGTTTTGGCAGACACAG	180
Db	1669	CATTTTCACAAAATTTCTCAAAACATAAAGCTCGAGATGAGTGGTAGTGTTTTGGCAGACACAG	1610
QY	181	GATAGACTGGTCTGTACGAGTATACAGAGCAAGAGAACCCCTCAAAATTTTCATGCG	240
Db	1609	GATAGACTGGTCTGTACGAGCTATACAGAGCAAGAGAACCCCTCAAAATTTTCATGCG	1550
QY	241	AAGTATAGAGGGCGCACAGCTTTGCAAAAGACAAATTTGACCCCTGAGACTCCATATATTT	300
Db	1549	AAGTATAGAGGGCGCACAGCTTTGCAAAAGACAAATTTGACCCCTGAGACTCCATATATTT	1490
QY	301	CAGATCAGAGCAAGGGCTGTATCAATGTTTCATCATATAAAGGCCCAAGGACTC	360
Db	1489	CAGATCAGAGCAAGGGCTGTATCAATGTTTCATCATATAAAGGGCCCAAGGACTC	1430
QY	361	GTTCCCATGACACAGATGAAATTTCTGACACTATGAGTCTGTTAACTTCAGTCAACCTGAA	420
Db	1429	GTTCCCATGACACAGATGAAATTTCTGACACTATGAGTCTGTTAACTTCAGTCAACCTGAA	1370
QY	421	ATAATGTTAACTTCTATATAGAACGAAAAATTCGCGCATCATAAATTTGACCTGTCATCC	480
Db	1369	ATAATGTTAACTTCTATATAGAACGAAAAATTCGCGCATCATAAATTTGACCTGTCATCC	1310
QY	481	ATACAGGTTACCCAGAACCCAGAGGATGATTTTTTGGTAAAAACCGAGATTTCAAGT	540

Query Match	83.8%;	Score 704;	DB 20;	Length 987;
-------------	--------	------------	--------	-------------

19-MAR-1999; 99WC-US06187.

```

XX 19-MAR-1998: 98US-0078765.
PR 17-APR-1998: 98US-0062597.
XX (HESK-) HESKA CORP.
XX Slim G, Yang S, Sellins KS;
PI WPI: 1999-571822/48.
DR
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1: Page 103-104; 148bp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;

Query Match      83.8%; Score 704; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 ATGATATCTCAGATGACATATGAACTGAAATACATCTCTTTGATGACCTCTGCTC 60
DB 987 ATGATATCTCAGATGACATATGAACTGAAATACATCTCTTTGATGACCTCTGCTC 928
OY 61 TATGTCGTCCTTCATTAAGAAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 120
DB 927 TATGTCGTCCTTCATTAAGAAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 868
OY 121 CATTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTTGGCAGGACGAG 180
DB 867 CATTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTTGGCAGGACGAG 808
OY 181 GATAAGCTGTTCTGTACGACTATACAGAGCAAGAAAGCAACCTCAAAATGTTTCATGCC 240
DB 807 GATAAGCTGTTCTGTACGACTATACAGAGCAAGAAAGCAACCTCAAAATGTTTCATGCC 748
OY 241 AAGTATAGGGCGGCACAAAGCTTGGACAAAGCAAAATGGACCCGAGACCTCATTAATATT 300
DB 747 AAGTATAGGGCGGCACAAAGCTTGGACAAAGCAAAATGGACCCGAGACCTCATTAATATT 688
OY 301 CAGATCAAGAGCAAGGGCTTGTATCAATGTTCTTCATCAATTAAGGGCCCAAGGACTC 360
DB 687 CAGATCAAGAGCAAGGGCTTGTATCAATGTTCTTCATCAATTAAGGGCCCAAGGACTC 628
OY 361 GTTCCCATGACACAGATGAATTTGACCTATACAGTGGTCTTAACCTCAAGTCAAGTCAA 420
DB 627 GTTCCCATGACACAGATGAATTTGACCTATACAGTGGTCTTAACCTCAAGTCAAGTCAA 568
OY 421 ATAATGTAAGTCTTAATAGAAAGCAAAATTTGCGCATCAAAATTTGACTGCTCATCC 480
DB 567 ATAATGTAAGTCTTAATAGAAAGCAAAATTTGCGCATCAAAATTTGACTGCTCATCC 508
OY 481 ATACAAAGGTTACCCGAAAGCAAGAGATGATATTTTGGTAAAGGAGCAATTTCAAGT 540
DB 507 ATACAAAGGTTACCCGAAAGCAAGAGATGATATTTTGGTAAAGGAGCAATTTCAAGT 448
OY 541 ACTAAGTATGATCTGTGATGAAGAATCTCAAAATAATGTCACAGAACTCTACACGTT 600
DB 547 ACTAAGTATGATCTGTGATGAAGAATCTCAAAATAATGTCACAGAACTCTACACGTT 388
OY 601 TCTATACGCTTGTCTTCTGACGCTCCCTGAGCAAGCAATGTGAGCATCTTGTGTCCTG 660

```

```

DB 387 TCTATCAGCTGTCCTTCTTCAGTCCCTGAAAGCAAGCATGTGAGCATCTTGTGTCCTG 328
OY 661 CAACCTGAGTCATGAAAGCTTCCCTCCCTACTTTAATATAGA 704
DB 327 CAACCTGAGTCATGAAAGCTTCCCTCCCTACTTTAATATAGA 284

RESULT 7
AA227913
ID AA227913 standard; DNA; 1897 BP.
XX
XX AA227913;
AC
XX
XX 20-DEC-1999 (first entry)
DT
XX
DE Canine B7-2 protein encoding DNA.
XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Canis familiaris.
XX
XX WO947558-A2.
PN
XX 23-SEP-1999.
PD
XX
XX 19-MAR-1999; 99WO-US06187.
PF
XX
XX 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Slim G, Yang S, Sellins KS;
PI WPI: 1999-571822/48.
DB P-PDB: AAT41076.
DR
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1: Page 97-99; 148bp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 1897 BP; 585 A; 400 C; 383 G; 529 T; 0 other;

Query Match      83.8%; Score 704; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 ATGATATCTCAGATGACATATGAACTGAAATACATCTCTTTGATGACCTCTGCTC 60
DB 6 ATGATATCTCAGATGACATATGAACTGAAATACATCTCTTTGATGACCTCTGCTC 65
OY 61 TATGTCGTCCTTCATTAAGAAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 120
DB 66 TATGTCGTCCTTCATTAAGAAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 125
OY 121 CATTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTTGGCAGGACGAG 180
DB 126 CATTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTTGGCAGGACGAG 185
OY 181 GATAAGCTGTTCTGTACGACTATACAGAGCAAGAAAGCAACCTCAAAATGTTTCATGCC 240

```



```

|||||
Db 186 GATTAACCTGGTTGTGTACAGCTATACAGAGGAAAGAACCCCTCAAAATGTTTCATCC 245
QY 241 AAGTATAGGGCGCGACAAAGCTTGTGACAAAGCAATTTGGACCCCTGAGACTCCATAATATT 300
Db 246 AAGTATAGGGCGCGACAAAGCTTGTGACAAAGCAATTTGGACCCCTGAGACTCCATAATATT 305
QY 301 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTGGTTCATCATATAAGGGCCCAAGGACTC 360
Db 306 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTGGTTCATCATATAAGGGCCCAAGGACTC 365
QY 361 GTTCCCATGACCCAGATGATTTCTGACCTATACAGTCTTGTCTACTTCACTCACTCACTGAA 420
Db 366 GTTCCCATGACCCAGATGATTTCTGACCTATACAGTCTTGTCTACTTCACTCACTCACTGAA 425
QY 421 ATATAGTACTCTCTATATGACAGAAATTTGGCATATTAATTTGACCTGCTCATCC 480
Db 426 ATATAGTACTCTCTATATGACAGAAATTTGGCATATTAATTTGACCTGCTCATCC 485
QY 481 ATACAAGGTTACCCAGAACCCCAAGAGATGATTTTTTGGTAAAAACCGAGAAATTCAGT 540
Db 486 ATACAAGGTTACCCAGAACCCCAAGAGATGATTTTTTGGTAAAAACCGAGAAATTCAGT 545
QY 541 ACTAATGATGATACGTGCTCAAGAAATCTCAAAATATGTCACAGAACTCTACAAAGCTT 600
Db 546 ACTAATGATGATACGTGCTCAAGAAATCTCAAAATATGTCACAGAACTCTACAAAGCTT 605
QY 601 TCTATCAGCTTGTCTCTCAAGTCCCTGAGCAAGCAATGTGAGCATCTTCTGTCTCTG 660
Db 606 TCTATCAGCTTGTCTCTCAAGTCCCTGAGCAAGCAATGTGAGCATCTTCTGTCTCTG 665
QY 661 CAACCTGAGTCAATGAAGCTTCCCTCCCTACCTTATATATAGA 704
Db 666 CAACCTGAGTCAATGAAGCTTCCCTCCCTACCTTATATATAGA 709

RESULT 8
AAZ27914/c
ID AAZ27914 standard; DNA; 1897 BP.
XX
XX AAZ27914;
XX
XX 20-DEC-1999 (first entry)
XX
XX Canine B7-2 gene complementary DNA sequence.
XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; canine;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
XX
XX WO9947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 101-102; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)

```

```

CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 1897 BP; 529 A; 383 C; 400 G; 585 T; 0 other;
Query Match 83.8%; Score 704; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ATGTATCTCAATGATGACATATGGAAGTGAATTAACATTTCTTTTGTGATGACCTCTCTC 60
Db 1892 ATGTATCTCAATGATGACATATGGAAGTGAATTAACATTTCTTTTGTGATGACCTCTCTC 1833
QY 61 TATGTCCTGCTTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 120
Db 1832 TATGTCCTGCTTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 1773
QY 121 CATTTTACAAATTTCTCAAAACATAAGCCTGATGATGATGATGATGATGATGATGATGATG 180
Db 1772 CATTTTACAAATTTCTCAAAACATAAGCCTGATGATGATGATGATGATGATGATGATGATG 1713
QY 181 GATAGTCGTGTCGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 240
Db 1712 GATAGTCGTGTCGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 1653
QY 241 AAGTATAGGGCGCGACAAAGCTTGTACAAAGACATTTGGACCCCTGAGATCTCATATATT 300
Db 1652 AAGTATAGGGCGCGACAAAGCTTGTACAAAGACATTTGGACCCCTGAGATCTCATATATT 1593
QY 301 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTCTTATCATTAAGGGCCCAAGGACTC 360
Db 1592 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTCTTATCATTAAGGGCCCAAGGACTC 1533
QY 361 GTTCCCATGACCCAGATGATTTCTGACCTATCAGTGTGCTACTTCACTCACTCACTGAA 420
Db 1532 GTTCCCATGACCCAGATGATTTCTGACCTATCAGTGTGCTACTTCACTCACTCACTGAA 1473
QY 421 ATATGTAATCTTATATAGAACAAATTTGGCATCATTAATTTGACCTGCTCATCC 480
Db 1472 ATATGTAATCTTATATAGAACAAATTTGGCATCATTAATTTGACCTGCTCATCC 1413
QY 481 ATACAAGGTTACCCAGAACCCCAAGAGATGATTTTGGTAAACCGAGAAATTCAGT 540
Db 1412 ATACAAGGTTACCCAGAACCCCAAGAGATGATTTTGGTAAACCGAGAAATTCAGT 1353
QY 541 ACTAATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 600
Db 1352 ACTAATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 1293
QY 601 TCTATCAGCTTGTCTCTCTCAAGTCCCTGAGCAAGCAATGTGACATCTTCTGTCTCTG 660
Db 1292 TCTATCAGCTTGTCTCTCTCAAGTCCCTGAGCAAGCAATGTGACATCTTCTGTCTCTG 1233
QY 661 CAACCTGAGTCAATGAAGCTTCCCTCCCTACCTTATATATAGA 704
Db 1232 CAACCTGAGTCAATGAAGCTTCCCTCCCTACCTTATATATAGA 1189

RESULT 9
AAZ27931
ID AAZ27931 standard; DNA; 996 BP.
XX
XX AAZ27931;
XX
XX 20-DEC-1999 (first entry)
XX
XX Feline B7-2 protein coding sequence.

```

```

XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN W09947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
DR P-PSDB; AAY41079.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 123-124; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 996 BP; 319 A; 219 C; 203 G; 255 T; 0 other;
XX
Query Match 7.3%; Score 61; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 2.4e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 71 CTTCCATGAAGAGTCACGATATTTCACACAGACTGAGAACTGCCATGCAATTTTACAA 130
DB 74 CTTCCATGAAGAGTCACGATATTTCACACAGACTGAGAACTGCCATGCAATTTTACAA 133
OY 131 A 131
DB 134 A 134

RESULT 10
AAZ27932/C
ID AAZ27932 standard; DNA; 996 BP.
XX
AC AAZ27932;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of feline B7-2 coding sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN W09947558-A2.
PD 23-SEP-1999.
XX

```

```

PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 124-125; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;
XX
Query Match 7.3%; Score 61; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 2.4e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 71 CTTCCATGAAGAGTCACGATATTTCACACAGACTGAGAACTGCCATGCAATTTTACAA 130
DB 923 CTTCCATGAAGAGTCACGATATTTCACACAGACTGAGAACTGCCATGCAATTTTACAA 864
OY 131 A 131
DB 863 A 863

RESULT 11
AAZ34838
ID AAZ34838 standard; cDNA; 1080 BP.
XX
AC AAZ34838;
XX
DT 28-FEB-2000 (first entry)
XX
DE Feline CD86 (B7-2) cDNA.
XX
KW CD86; B7-2; feline; cat; recombinant virus; vaccine;
KW immunomodulator; tumour; cancer; therapy; ss.
XX
OS Felis domesticus.
XX
FH Key Location/Qualifiers
FT CDS 63..1052
FT /tag= a
XX
PN W0957295-A1.
XX
PD 11-NOV-1999.
XX
PF 30-APR-1999; 99WO-US09504.
XX
PR 01-MAY-1998; 98US-0071711.
XX
PA (SCHE) SCHERING-PLOUGH LTD.
PA (SCHE) SCHERING-PLOUGH VETERINARY CORP.
XX
PI Winslow BJ, Cochran MD;
XX

```

DR WPI: 2000-062155/05.
DR P-PSDB: AAY32285.

PT Novel recombinant virus useful as immunomodulators, particularly in
PT vaccines

PS Disclosure: Fig 3A: 230bp; English.

XX This is the nucleotide sequence of cDNA coding for feline CD86
XX (B7-2). The cDNA was isolated from feline peripheral blood
XX mononuclear cell cDNA by PCR. Manipulating the expression of CD28
XX or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
XX regulates T cell proliferation and cytokine release. The invention
XX relates to a recombinant virus that contains at least one foreign
XX nucleic acid, inserted into a nonessential genomic region, that
XX encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
XX immunogenic fragments, and is expressed when the recombinant virus
XX is introduced into a suitable host. The invention also provides:
XX a recombinant virus further comprising a foreign nucleic acid
XX encoding an immunogen derived from a feline pathogen; recombinant
XX viruses capable of enhancing an immune response to protect against
XX disease; recombinant viruses expressing antisense sequences,
XX capable of suppressing an immune response in a feline, e.g. for
XX treatment of autoimmune disease or transplant rejection; and
XX recombinant viruses expressing DNA encoding CD80 and/or CD86 used
XX to reduce or eliminate a tumour in cats.

Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 7.3%; Score 61; DB 21; Length 1080;
Best Local Similarity 100.0%; Pred. No. 2.3e-20;

Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 71 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAACTGCCATTTTACAA 130
Db 136 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAACTGCCATTTTACAA 195

OY 131 A 131

Db 196 A 196

RESULT 12

AAZ34785
ID AAZ34785 standard; cDNA; 1080 BP.

AC AAZ34785;

DT 15-FEB-2000 (first entry)

DE Cat CD86 (B7-2) cDNA.

XX CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
XX FIV; feline leukaemia virus; feline infectious peritonitis virus;
XX feline panleukopenia virus; feline calicivirus; feline reovirus-3;
XX feline rotavirus; feline coronavirus; feline syncytial virus;
XX feline sarcoma virus; feline herpesvirus; feline Borna disease;
XX rabies virus; Chlamydia; Toxoplasmosis gondii; Dirofilaria immitis;
XX parasite; autoimmune disease; transplant rejection; therapy; ss.

OS Feline domesticus.

FT Key Location/Qualifiers
FT CDS 63..1035
FT /tag- a

PN WO9557271-A2.

PD 11-NOV-1999.

XX 30-APR-1999; 99WO-US09502.

PR 01-MAY-1998; 98US-0071699.

XX (TEXA) TEXAS A & M SYSTEM.
PA
XX

PI Collison EW, Hash SM, Choi I;

DR WPI: 2000-052972/04.

DR P-PSDB: AAY32278.

PT Novel feline proteins used to produce feline vaccines which prevent
PT infectious disease or to promote growth in homologous or heterologous
PT species

Claim 6; Fig 3A; 186bp; English.

XX This is the nucleotide sequence of cDNA encoding feline CD86
XX (B7-2) ligand (see AAY32278). It was obtained following RT-PCR of
XX peripheral blood mononuclear cell mRNA and RACE-PCR. A vector
XX comprising nucleic acid encoding feline CD86 ligand or feline
XX soluble CD80 ligand is designated PSI-2#19-2/011298 (ATCC 209821).
XX The coexpression of CD86 with the costimulatory molecules CD28 (see
XX AAY32279) and a tumour antigen or an antigen from a pathogenic
XX organism has the ability to activate or enhance activation of
XX T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has
XX the ability to regulate activation of T-lymphocytes. The invention
XX provides isolated nucleic acids encoding feline CD86 ligand,
XX feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4
XX (CD152) receptor, as well as vectors comprising the nucleic acids,
XX and polypeptides encoded by the nucleic acids. It also provides
XX vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and
XX further comprising immunogens derived from pathogens, especially
XX feline immunodeficiency virus (FIV), feline leukaemia virus,
XX feline infectious peritonitis virus, feline panleukopenia virus,
XX feline calicivirus, feline reovirus-3, feline rotavirus, feline
XX coronavirus, feline syncytial virus, feline sarcoma virus, feline
XX herpesvirus, feline Borna disease virus, rabies virus, Chlamydia,
XX Toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial
XX pathogen, or parasite (all claimed). Vaccines capable of
XX enhancing an immune response, and vaccines capable of suppressing
XX an immune response (suitable for treating an autoimmune disease
XX or tissue or organ transplant rejection) are claimed. The
XX nucleic acids may be used for gene therapy or antisense therapy
XX protocols.

Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 7.3%; Score 61; DB 21; Length 1080;
Best Local Similarity 100.0%; Pred. No. 2.3e-20;

Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 71 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAACTGCCATTTTACAA 130

Db 136 CTTCCATGAGAGTCACATATTTCACACAGACTGAGAACTGCCATTTTACAA 195

OY 131 A 131

Db 196 A 196

RESULT 13

AAI46840
ID AAI46840 standard; cDNA; 1080 BP.

AC AAI46840;

DT 08-AUG-2002 (first entry)

DE Feline CD86 coding sequence.

XX Cat; CD28; CD80; CTLA-4; CD86; immunogen; vaccine; viral infection;
XX feline immunodeficiency disease; feline infectious peritonitis;
XX feline leukaemia virus; cancer; degenerative disease; autoimmune disease;
XX virucide; immunomodulator; cytostatic; immunodeficiency; gene; ss.

OS Felis catus.
 XX US2002051792-A1.
 XX 02-MAY-2002.
 XX 30-APR-1999; 99US-0303040.
 XX 01-MAY-1998; 98US-083870P.
 XX
 XX (WINSLOW B J.
 XX (COCHRAN M D.
 XX
 XX Winslow BJ, Cochran MD;
 XX
 XX WPI: 2002-415200/44.
 XX P-PSDB: AA017734.
 XX
 XX New recombinant virus, useful for immunizing felines to prevent or
 XX treat feline immunodeficiency virus, comprises foreign nucleic acid
 XX encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
 XX CD86 or CTLA-4 -
 XX
 XX Disclosure: Fig 3; 77pp; English.
 XX
 XX The present invention relates to a recombinant virus comprising at least
 XX one foreign nucleic acid encoding a protein selected from feline
 XX cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
 XX which is capable of expression when the virus is introduced into an
 XX appropriate host. The virus can be administered to the feline in order to
 XX elicit or enhance an immune response to prevent or treat feline
 XX immunodeficiency disease, feline leukemia, feline infectious peritonitis,
 XX cancers, degenerative and autoimmune diseases and immunodeficiency. The
 XX present sequence is the coding sequence of a cytotoxic T lymphocyte
 XX accessory molecule described in the exemplification of the invention.
 XX
 XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 XX
 XX Query Match 7.3%; Score 61; DB 24; Length 1080;
 XX Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 XX Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX QY 71 CTTCATGAAGAGTCAAGCATATTTCAACAGACTGAGAACTCCATGCCATTTCACAA 130
 XX |
 XX Db 136 CTTCATGAAGAGTCAAGCATATTTCAACAGACTGAGAACTCCATGCCATTTCACAA 195
 XX
 XX QY 131 A 131
 XX |
 XX Db 196 A 196
 XX
 XX RESULT 14
 XX ABK48230
 XX ID ABK48230 standard; CDNA; 1080 BP.
 XX
 XX AC ABK48230;
 XX
 XX 02-JUL-2002 (first entry)
 XX
 XX cDNA encoding feline CD86 protein.
 XX
 XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
 XX feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
 XX CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
 XX organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
 XX feline leukemia; FELV; calicivirus; rotavirus; reovirus type 3;
 XX coronavirus; herpes; borna disease.
 XX
 XX Felis sp.
 XX
 XX f Location/Qualifiers
 XX key 63..1052
 XX CDS /*tag= a
 XX FT

FT /Product= "CD86 protein"
 XX US2002028208-A1.
 XX 07-MAR-2002.
 XX 30-APR-1999; 99US-0303510.
 XX 01-MAY-1998; 98US-083869P.
 XX
 XX (COLLISON E W.
 XX (HASH/ HAH S M.
 XX (CHOI/ CHOI I.
 XX
 XX Collison EW, Hash SM, Choi I;
 XX
 XX WPI: 2002-315045/35.
 XX P-PSDB: AA078121.
 XX
 XX Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
 XX receptor or CTLA-4 receptor as vaccine for inducing immune response in
 XX feline suffering from autoimmune disease or tissue or organ transplant
 XX
 XX Claim 6; Fig 3A; 73pp; English.
 XX
 XX This invention relates to the DNA and protein sequences encoding a
 XX soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
 XX CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
 XX invention also relates to a vaccine comprising an effective amount of
 XX these receptor proteins. A vaccine is useful for inducing immunity or
 XX enhancing an immune response in a cat. The protein sequences of the
 XX invention are useful for suppressing an immune response in a feline
 XX suffering from an autoimmune disease or the recipient of a tissue or
 XX organ transplant. A vector containing the DNA sequences of the
 XX invention is useful for redirecting an immune response in a feline to an
 XX immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
 XX flea, feline immunodeficiency virus, feline leukemia (FELV), feline
 XX infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
 XX reovirus type 3, rotavirus, coronavirus, parvovirus, herpes virus,
 XX sarcoma virus, borna disease virus or a parasite. The protein sequences
 XX may be further utilised to promote growth in homologous or heterologous
 XX feline species. Enhancement of immunity through the interaction of an
 XX soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
 XX immune response through the interaction of feline CD80 or CD86 with
 XX CTLA-4 takes advantage of the natural process of regulation rather than
 XX adding foreign substances that could have multiple, even detrimental
 XX effects on overall or long term health. The present sequence represents
 XX a cDNA encoding the feline CD86 protein of the invention.
 XX
 XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 XX
 XX Query Match 7.3%; Score 61; DB 24; Length 1080;
 XX Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 XX Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX QY 71 CTTCATGAAGAGTCAAGCATATTTCAACAGACTGAGAACTCCATGCCATTTCACAA 130
 XX |
 XX Db 136 CTTCATGAAGAGTCAAGCATATTTCAACAGACTGAGAACTCCATGCCATTTCACAA 195
 XX
 XX QY 131 A 131
 XX |
 XX Db 196 A 196
 XX
 XX RESULT 15
 XX AAZ27929
 XX ID AAZ27929 standard; DNA; 2830 BP.
 XX
 XX AC AAZ27929;
 XX
 XX 20-DEC-1999 (first entry)
 XX
 XX

DE Feline B7-2 protein encoding DNA.
 XX
 PF B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 XX allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9947558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS.
 XX
 DR WPI: 1999-571822/48.
 DR P-PSDB; AAY41079.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 116-119; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other;
 XX
 Query Match 7.3%; Score 61; DB 20; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 71 CTTCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 130
 Db 252 CTTCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 311
 QY 131 A 131
 Db 312 A 312
 XX
 RESULT 16
 AA227930/c
 ID AA227930 standard; DNA; 2830 BP.
 XX
 AC AA227930;
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 gene complementary DNA sequence.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9947558-A2.
 XX
 PD 23-SEP-1999.
 XX

XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI: 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 121-123; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 2830 BP; 797 A; 586 C; 570 G; 877 T; 0 other;
 XX
 Query Match 7.3%; Score 61; DB 20; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 71 CTTCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 130
 Db 257 CTTCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 2520
 QY 131 A 131
 Db 2519 A 2519
 XX
 RESULT 17
 AAT62939
 ID AAT62939 standard; DNA; 764 BP.
 XX
 AC AAT62939;
 XX
 DT 16-JUN-1997 (first entry)
 XX
 DE Chimeric human/porcine CD86 DNA construct.
 XX
 KW Xenotransplantation; graft rejection; cell interaction; pig;
 KW CD86; monoclonal antibody; chimeric antibody; diagnosis; ss.
 XX
 OS Chimeric Homo sapiens;
 OS Chimeric Sus scrofa.
 XX
 FH Key Location/Qualifiers
 FT CDS 7..749
 FT /*tag= a
 FT /note= "the porcine CD86 sequence spans
 FT sig_peptide 7..81
 FT mat_peptide 82..756
 FT /*tag= c
 XX
 PN WO9711971-A1.
 XX
 PD 03-APR-1997.
 XX
 PF 27-SEP-1996; 96WO-US15575.
 XX

```

XX 26-SEP-1996; 96US-0004489.
PR 28-SEP-1995; 95US-0004489.
XX
PA (ALEX-) ALEXION PHARM INC.
XX Evans MJ, Matis LA, Mueller EE, Mueller JP, Rollins S;
PI Rother RP;
XX WPI: 1997-212855/19.
DR P-PSDB: AAM14944.
XX
PT Antibodies binding to porcine but not human cell interaction
PT proteins - useful to treat and assay for rejection of xenografted
PT porcine organs, tissues or cells
XX
PS Disclosure; Page 69-70; 105pp; English.
XX
CC A DNA construct (AAT62939) codes for a chimeric human/porcine
CC CD86 (B7-2) cell adhesion molecule. RT-PCR was used to amplify
CC an internal segment of the porcine CD86 gene from RNA isolated
CC from lipopolysaccharide-stimulated porcine peripheral blood
CC lymphocytes. A second PCR fragment encoding a truncated N-terminus
CC was prep'd by 5'RACE PCR. The partial gene fragment was fused to
CC the C-terminal 49 amino acids of the human CD86 19C domain by
CC overlapping PCR; the 3' primer included 15 nucleotides encoding a
CC histidine tag. Antibodies to porcine CD86 protein are useful for
CC diagnosing human rejection of porcine xenotransplants and for
CC improving xenotransplantation of porcine cells, tissues and organs
CC into human recipients.
XX
SQ Sequence 764 BP; 218 A; 197 C; 148 G; 201 T; 0 other;
Query Match 5.2%; Score 44; DB 18; Length 764;
Best Local Similarity 100.0%; Pred. No. 8.1e-12;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 381 TTCTGACCTATCAGTGTGCTGCTAAGTCAACCTGAATAA 424
Db 387 TTCTGACCTATCAGTGTGCTGCTAAGTCAACCTGAATAA 430

```

```

XX WPI: 2000-442537/38.
DR P-PSDB: AAY95321.
XX
PT Novel methods for improving tolerance to a xenograft comprising
PT immunizing a mammal with a T-cell epitope and a B-cell epitope -
XX
PS Disclosure; Fig 3; 81pp; English.
XX
CC The present sequence is that of cDNA clone CD86(1), which encodes
CC pig costimulatory molecule CD86 (B7-2) (see AAY95321). The clone
CC was obtained by PCR amplification of pig cDNA using primers (see
CC AAY9662-63) based on a published pig B7-2 sequence. The invention
CC relates to a novel strategy to inhibit costimulation by porcine
CC cells of human T cells, with particular importance in the context
CC of xenotransplantation of porcine organs. Recipients are immunised
CC with hybrid synthetic peptides comprising a T cell epitope
CC conjugated to sequences of the porcine costimulatory molecules
CC CD80, CD86 or CD40. Peptides that induce antibodies specific for
CC regions of costimulatory molecules involved in binding to their
CC counter-receptors on human cells (CD28 and CD14) are capable of
CC blocking the delivery of costimulation. Once the antibody response
CC has been induced, the transplanted organ will recall this response
CC due to the expression of the costimulatory molecules, thereby
CC sustaining the response, and providing an endogenous mechanism of
CC costimulatory blockade. The method is useful for improving the
CC tolerance of a host to xenografts, particularly porcine pancreatic
CC islet cells.
XX
SQ Sequence 1050 BP; 305 A; 260 C; 227 G; 258 T; 0 other;
Query Match 5.2%; Score 44; DB 21; Length 1050;
Best Local Similarity 100.0%; Pred. No. 8.1e-12;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 381 TTCTGACCTATCAGTGTGCTGCTAAGTCAACCTGAATAA 424
Db 398 TTCTGACCTATCAGTGTGCTGCTAAGTCAACCTGAATAA 441

```

```

RESULT 19
AA227935
ID AA227935 standard; DNA; 359 BP.
XX
AC AA227935;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein (smaller fragment) encoding DNA.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Fells catus.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI: 1999-571822/48.
DR P-PSDB: AAY41081.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

```

PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 127-128; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 XX Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;
 SQ
 Query Match 5.0%; Score 42; DB 20; Length 359;
 Best Local Similarity 100.0%; Pred. No. 8.2e-11;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 581
 DB 60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 101
 RESULT 20
 AAZ27936/C
 ID AAZ27936 standard; DNA; 359 BP.
 XX
 AC AAZ27936;
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 gene (smaller fragment) complementary DNA sequence.
 XX
 KM B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KM allergic reaction; infectious disease; tumor development; feline;
 KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9447558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI; 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 129; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 XX Sequence 359 BP; 83 A; 69 C; 79 G; 128 T; 0 other;
 SQ

Query Match 5.0%; Score 42; DB 20; Length 359;
 Best Local Similarity 100.0%; Pred. No. 8.2e-11;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 581
 DB 300 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 259
 RESULT 21
 AAZ27933
 ID AAZ27933 standard; DNA; 509 BP.
 XX
 AC AAZ27933;
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 protein (larger fragment) encoding DNA.
 XX
 KM B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KM allergic reaction; infectious disease; tumor development; feline;
 KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9447558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI; 1999-571822/48.
 DR P-PSDB; AAY41080.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 125-126; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 XX Sequence 509 BP; 170 A; 109 C; 106 G; 124 T; 0 other;
 SQ
 Query Match 5.0%; Score 42; DB 20; Length 509;
 Best Local Similarity 100.0%; Pred. No. 8.2e-11;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 581
 DB 60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 101
 RESULT 22
 AAZ27934/C
 ID AAZ27934 standard; DNA; 509 BP.
 XX
 AC AAZ27934;
 XX

DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 gene (larger fragment) complementary DNA sequence.
 XX
 XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KM allergic reaction; infectious disease; tumor development; feline;
 KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Fells catus.
 XX
 XX WO9947558-A2.
 PM
 XX 23-SEP-1999.
 PD
 XX 19-MAR-1999; 99WO-US06187.
 PF
 XX 19-MAR-1998; 98US-0078765.
 PR
 XX 17-APR-1998; 98US-0062597.
 PA
 XX (HESK-) HESKA CORP.
 XX
 PI Slim G, Yang S, Sellins KS;
 XX
 XX WPI: 1999-571822/48.
 DR
 XX
 XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 127; 148pp; English.
 XX
 XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 XX
 SQ Sequence 509 BP; 124 A; 106 C; 109 G; 170 T; 0 other;
 XX
 XX Query Match 5.0%; Score 42; DB 20; Length 509;
 XX Best Local Similarity 100.0%; Pred. No. 8.2e-11;
 XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATCT 581
 DB 450 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATCT 409
 XX
 XX RESULT 23
 XX AAV80293
 ID AAV80293 standard; cDNA; 738 BP.
 XX
 XX AAV80293;
 AC
 XX 15-MAR-1999 (first entry)
 DT
 XX Human B7-2 extracellular domain and linker DNA.
 DE
 XX Tumour interacting protein; cancer; gene therapy; vector;
 KM 574 antigen; monoclonal antibody; single chain antibody;
 KM mouse; human; B7-2; co-stimulatory molecule; ss.
 XX
 OS Chimeric - Homo sapiens.
 OS Chimeric - synthetic.
 XX
 XX WO9855607-A2.
 PM
 XX 10-DEC-1998.
 PD
 XX 04-JUN-1998; 98WO-GB01627.
 PF

XX
 PR 04-JUL-1997; 97GB-0014230.
 PR 04-JUN-1997; 97GB-0011579.
 PR 20-JUN-1997; 97GB-0013150.
 XX
 PA (OXFO-) OXFORD BIOMEDICA UK LTD.
 XX
 XX Babbington CR, Carroll MW, Ellard FM, Kingsman SM;
 PI Myers KA;
 XX
 XX WPI: 1999-059910/05.
 DR
 XX P-PSDB; AAW86005.
 PF
 XX New vector encoding a tumour interacting protein for treating cancer
 PT - contains a desired nucleotide sequence and/or protein which
 PT recognises tumours, and is used as a gene delivery system to treat
 PT cancer
 XX
 PS Example 5; Fig 4; 82pp; English.
 XX
 XX This DNA sequence encodes a polypeptide (see AAW86005) comprising
 CC the extracellular domain (amino acids 1-215) of human co-stimulatory
 CC molecule B7-2 joined to a C-terminal flexible peptide linker. This
 CC is part of the coding sequence of B7-2.574.1 co-stimulatory domain,
 CC a DNA sequence encoding a fusion protein comprising the B7-2
 CC extracellular domain joined via the linker to an scFv (see AAW86002)
 CC derived from murine 574 monoclonal antibody. The cDNA can be
 CC inserted into vector pCI to allow expression of the fusion protein
 CC in mammalian cells. The trophoblast cell surface antigen defined
 CC by 574 is expressed at high levels on the cells of a wide variety
 CC of human tumours. The invention relates to a vector comprising a
 CC nucleotide sequence coding for a tumour interacting protein (TIP)
 CC and optionally a nucleotide sequence of interest (NOI) which
 CC encodes a protein of interest (POI), the vector being capable of
 CC delivering the NOI and/or POI to the tumour recognised by the TIP.
 CC Delivery can be in vivo or ex vivo. The vector is used to treat
 CC cancer, and may also be used as a gene delivery system for
 CC introducing at least 1 gene encoding a TIP (preferably a tumour
 CC binding protein) into a haematopoietic cell lineage. B7-2 is
 CC expected to bind specifically to CD28 and CTLA-4 present on human
 CC T-cells.
 CC
 XX
 SQ Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;
 XX
 XX Query Match 3.9%; Score 33; DB 20; Length 738;
 XX Best Local Similarity 100.0%; Pred. No. 2.7e-06;
 XX Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 391 TCAGTCTGCTAAGTCTGTCATGACCTGAAATA 423
 DB 373 TCAGTCTGCTAAGTCTGTCATGACCTGAAATA 405
 XX
 XX RESULT 24
 XX AAF89731
 ID AAF89731 standard; DNA; 738 BP.
 XX
 XX AAF89731;
 AC
 XX 23-JUL-2001 (first entry)
 DT
 XX Nucleotide sequence of a B7-2.574.1 fusion protein.
 DE
 XX
 XX Single chain antibody; scFv; inflammatory disease; arthritis; cancer;
 KM hypersensitivity; autoimmune disease; central nervous system disorder;
 KM Parkinson's disease; periodontal disease; cardiopulmonary disease;
 KM cardiovascular disease; gastrointestinal disorder; infection; diabetes;
 KM Helicobacter-related disease; immune disorder; ss.
 XX
 OS Synthetic.
 OS Mus sp.
 OS Homo sapiens.
 XX

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 / Search time 110.604 Seconds
(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-19

Perfect score: 840
Sequence: 1 atgatactcagatgcactat.....acaacagctactacacagttt 840

Scoring table:
OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published Applications -NA:*

- 1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
- 2: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUB.seq:*
- 3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
- 4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
- 5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
- 6: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUBCOMB.seq:*
- 7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
- 8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
- 9: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
- 10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
- 11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
- 12: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUBCOMB.seq:*
- 13: /cgn2_6/ptodata/2/pubpna/US00_NEW_PUB.seq:*
- 14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	61	7.3	1080	US-09-303-510-5	Sequence 5, Appl1
2	61	7.3	1080	US-09-303-040-5	Sequence 5, Appl1
3	33	3.9	551	US-09-796-692-7817	Sequence 7817, Ap
4	33	3.9	598	US-09-796-692-7754	Sequence 7754, Ap
5	33	3.9	751	US-10-105-200A-34	Sequence 34, Appl
6	33	3.9	831	US-09-845-899A-4	Sequence 4, Appl1
7	33	3.9	972	US-09-826-025-11	Sequence 11, Appl
8	33	3.9	1002	US-10-105-200A-33	Sequence 33, Appl1
9	33	3.9	1056	US-09-756-983-17	Sequence 17, Appl
10	33	3.9	1112	US-09-441-411-25	Sequence 25, Appl
11	33	3.9	1120	US-08-592-711-3	Sequence 3, Appl1
12	33	3.9	1120	US-09-962-969-52	Sequence 22, Appl
13	33	3.9	1120	US-09-837-867A-22	Sequence 22, Appl
14	33	3.9	1161	US-09-962-969-24	Sequence 22, Appl
15	33	3.9	1161	US-09-857-867A-24	Sequence 24, Appl
16	33	3.9	1424	US-09-954-531-366	Sequence 366, App
17	33	3.9	1424	US-09-441-411-21	Sequence 21, Appl
18	33	3.9	1424	US-09-962-436-556	Sequence 556, App
19	25	3.0	25	US-09-303-510-34	Sequence 34, Appl

20	20	3.0	25	US-09-303-510-38	Sequence 38, Appl
21	25	3.0	25	US-09-303-040-34	Sequence 34, Appl
22	25	3.0	25	US-09-303-040-38	Sequence 38, Appl
23	24	2.9	54	US-09-147-142-23	Sequence 23, Appl
24	24	2.9	54	US-09-147-142-26	Sequence 26, Appl
25	21	2.5	210	US-09-962-969-31	Sequence 31, Appl
26	21	2.5	210	US-09-837-867A-31	Sequence 31, Appl
27	21	2.5	2577	US-09-529-063-71	Sequence 71, Appl
28	21	2.5	2880	US-09-764-898-81	Sequence 81, Appl
29	21	2.5	3013	US-09-764-853-260	Sequence 260, App
30	21	2.5	3088	US-09-529-063-72	Sequence 72, Appl
31	21	2.5	3336	US-10-004-551-27	Sequence 27, Appl
32	20	2.4	22	US-10-115-615-20	Sequence 20, Appl
33	19	2.3	195	US-09-962-969-41	Sequence 41, Appl
34	19	2.3	195	US-09-837-867A-41	Sequence 41, Appl
35	19	2.3	4512	US-10-007-706-2	Sequence 2, Appl1
36	19	2.3	6220	US-10-007-706-3	Sequence 3, Appl1
37	18	2.1	471	US-09-864-761-2757	Sequence 2757, Ap
38	18	2.1	700	US-09-728-952-62	Sequence 62, Appl
39	18	2.1	855	US-09-728-952-63	Sequence 63, Appl
40	18	2.1	1454	US-09-957-708-14	Sequence 14, Appl
41	18	2.1	3346	US-10-078-929-191	Sequence 191, App
42	18	2.1	15772	US-09-764-903-66	Sequence 66, Appl
43	17	2.0	48	US-10-179-046-7	Sequence 7, Appl1
44	17	2.0	54	US-10-179-046-25	Sequence 25, Appl
45	17	2.0	56	US-10-179-046-30	Sequence 30, Appl
46	17	2.0	97	US-09-747-377-329	Sequence 329, App
47	17	2.0	155	US-09-535-459-909	Sequence 909, App
48	17	2.0	155	US-09-535-459-1103	Sequence 1103, Ap
49	17	2.0	184	US-09-864-761-17534	Sequence 17534, A
50	17	2.0	214	US-09-535-459-1062	Sequence 1062, Ap
51	17	2.0	247	US-09-535-459-1119	Sequence 1119, Ap
52	17	2.0	261	US-09-535-459-1074	Sequence 1074, Ap
53	17	2.0	278	US-09-960-356-9363	Sequence 9363, Ap
54	17	2.0	354	US-09-864-761-750	Sequence 750, App
55	17	2.0	390	US-10-179-046-13	Sequence 13, Appl
56	17	2.0	400	US-08-781-986A-3856	Sequence 3856, Ap
57	17	2.0	408	US-09-918-995-37063	Sequence 37063, A
58	17	2.0	417	US-08-781-986A-4133	Sequence 4133, Ap
59	17	2.0	470	US-09-918-995-28601	Sequence 28601, A
60	17	2.0	484	US-09-796-692-9286	Sequence 9286, Ap
61	17	2.0	538	US-09-918-995-22471	Sequence 22471, A
62	17	2.0	563	US-09-864-761-13635	Sequence 13635, A
63	17	2.0	1151	US-09-962-969-20	Sequence 20, Appl
64	17	2.0	1151	US-09-837-867A-20	Sequence 20, Appl
65	17	2.0	1183	US-09-441-411-23	Sequence 23, Appl
66	17	2.0	1261	US-09-962-969-12	Sequence 12, Appl
67	17	2.0	1261	US-09-837-867A-12	Sequence 12, Appl
68	17	2.0	1716	US-10-179-046-1	Sequence 1, Appl1
69	17	2.0	2892	US-09-938-842A-1073	Sequence 1073, Ap
70	17	2.0	7596	US-09-728-952-1	Sequence 1, Appl1
71	17	2.0	7972	US-08-781-986A-312	Sequence 312, App
72	17	2.0	8121	US-09-785-770A-14	Sequence 14, Appl
73	17	2.0	11474	US-09-816-028A-1	Sequence 1, Appl1
74	17	2.0	11557	US-09-070-927A-222	Sequence 222, App
75	17	2.0	11598	US-10-091-572-887	Sequence 887, App
76	17	2.0	11600	US-10-091-572-888	Sequence 888, App
77	17	2.0	13824	US-09-764-877-3492	Sequence 3492, Ap
78	17	2.0	14654	US-09-764-860-1054	Sequence 1054, Ap
79	17	2.0	44888	US-09-988-113-42	Sequence 42, Appl
80	17	2.0	44888	US-09-776-878A-42	Sequence 42, Appl
81	17	2.0	74566	US-09-781-558-3	Sequence 3, Appl1
82	16	1.9	21	US-09-303-510-27	Sequence 27, Appl
83	16	1.9	21	US-09-303-040-27	Sequence 27, Appl
84	16	1.9	237	US-09-796-692-9507	Sequence 9507, Ap
85	16	1.9	252	US-09-878-57A-15536	Sequence 15536, A
86	16	1.9	266	US-09-923-876-1452	Sequence 1452, Ap
87	16	1.9	270	US-09-878-57A-12418	Sequence 12418, A
88	16	1.9	292	US-09-215-652-12	Sequence 12, Appl
89	16	1.9	347	US-09-796-692-8262	Sequence 8262, Ap
90	16	1.9	359	US-09-974-300-4578	Sequence 4578, Ap
91	16	1.9	389	US-09-960-332-1567	Sequence 1567, Ap
92	16	1.9	400	US-09-918-995-16771	Sequence 16771, A

c 93 16 1.9 405 9 US-09-918-995-16454 Sequence 16454, A
c 94 16 1.9 409 9 US-09-918-995-35830 Sequence 35830, A
c 95 16 1.9 415 10 US-09-960-352-7603 Sequence 7603, Ap
c 96 16 1.9 420 10 US-09-983-965-1137 Sequence 1137, Ap
c 97 16 1.9 431 9 US-09-918-995-8402 Sequence 8402, Ap
c 98 16 1.9 432 9 US-10-092-154-1353 Sequence 1353, Ap
c 99 16 1.9 432 10 US-09-764-847-1353 Sequence 1353, Ap
c 100 16 1.9 448 9 US-09-918-995-17222 Sequence 17222, A

ALIGNMENTS

RESULT 1
US-09-303-510-5
; Sequence 5, Application US/09303510A
; Patent No. US20020028208A1
; GENERAL INFORMATION:
; APPLICANT: Collisson, Ellen W.
; APPLICANT: Choi, Stephen M.
; APPLICANT: Choi, Insoo
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
; TITLE OF INVENTION: CTLA-4 Nucleic Acid and Polypeptides
; FILE REFERENCE: 54954
; CURRENT APPLICATION NUMBER: US/09/303,510A
; EARLIER FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083,869
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 83
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: Feline
US-09-303-510-5
Query Match 7.3%; Score 61; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3.6e-23;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 71 CTTCCATGAGAGTCAGCATATTTCAACAAGACTGGAGACTGCCATTTTACAA 130
DB 136 CTTCCATGAGAGTCAGCATATTTCAACAAGACTGGAGACTGCCATTTTACAA 195
QY 131 A 131
DB 196 A 196
RESULT 2
US-09-303-040-5
; Sequence 5, Application US/09303040
; Patent No. US20020051792A1
; GENERAL INFORMATION:
; APPLICANT: Winslow, Barbara J.
; APPLICANT: Cochran, Mark D.
; TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, Feline CTLA-4 or
; TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof
; FILE REFERENCE: 54957-B
; CURRENT APPLICATION NUMBER: US/09/303,040
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083,870
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 82
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: feline CD86
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (63)..(1052)

US-09-303-040-5
Query Match 7.3%; Score 61; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3.6e-23;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 71 CTTCCATGAGAGTCAGCATATTTCAACAAGACTGGAGACTGCCATTTTACAA 130
DB 136 CTTCCATGAGAGTCAGCATATTTCAACAAGACTGGAGACTGCCATTTTACAA 195
QY 131 A 131
DB 196 A 196

RESULT 3
US-09-796-692-7817
; Sequence 7817, Application US/09796692
; Publication No. US20020198362A1
; GENERAL INFORMATION:
; APPLICANT: Gaiger, Alexander
; APPLICANT: Algate, Paul A.
; APPLICANT: Mannion, Jane
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE DETECTION, DIAGNOSIS AND THER
; TITLE OF INVENTION: HEMATOLOGICAL MALIGNANCIES
; FILE REFERENCE: 2077.001200
; CURRENT APPLICATION NUMBER: US/09/796,692
; CURRENT FILING DATE: 2001-03-01
; PRIOR APPLICATION NUMBER: 60/186,126
; PRIOR FILING DATE: 2000-03-01
; PRIOR APPLICATION NUMBER: 60/190,479
; PRIOR FILING DATE: 2000-03-17
; PRIOR APPLICATION NUMBER: 60/200,545
; PRIOR FILING DATE: 2000-04-27
; PRIOR APPLICATION NUMBER: 60/200,303
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: 60/200,779
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: 60/200,999
; PRIOR FILING DATE: 2000-05-01
; PRIOR APPLICATION NUMBER: 60/202,084
; PRIOR FILING DATE: 2000-05-04
; PRIOR APPLICATION NUMBER: 60/206,201
; PRIOR FILING DATE: 2000-05-22
; PRIOR APPLICATION NUMBER: 60/218,950
; PRIOR FILING DATE: 2000-07-14
; PRIOR APPLICATION NUMBER: 60/222,903
; PRIOR FILING DATE: 2000-08-03
; PRIOR APPLICATION NUMBER: 60/223,416
; PRIOR FILING DATE: 2000-08-04
; PRIOR APPLICATION NUMBER: 60/223,378
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 9597
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 7817
; LENGTH: 551
; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (526)
; OTHER INFORMATION: n-A,T,C or G
; NAME/KEY: unsure
; LOCATION: (535)
; OTHER INFORMATION: n-A,T,C or G
US-09-796-692-7817
Query Match 3.9%; Score 33; DB 9; Length 551;
Best Local Similarity 100.0%; Pred. No. 9.5e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 391 TCAGTCTTGCTACTGCTACCTGAAATA 423
|||||

GenCore version 5.1.4-p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 40.2818 Seconds

(without alignments)
6395.163 Million cell updates/sec

Title: US-09-646-561-19

Perfect score: 840

Sequence: 1 atgtatctcagatgcactat.....acaacagctacacagttt 840

Scoring table: OLIGO_NUC

Searched: 441362 seqs, 153338381 residues

Word size : 0

Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Issued Patents NA: *
1: /cgn2_6/ptodata/1/ina/5A.COMB.seq: *
2: /cgn2_6/ptodata/1/ina/5B.COMB.seq: *
3: /cgn2_6/ptodata/1/ina/6A.COMB.seq: *
4: /cgn2_6/ptodata/1/ina/6B.COMB.seq: *
5: /cgn2_6/ptodata/1/ina/PCTUS.COMB.seq: *
6: /cgn2_6/ptodata/1/ina/Backfile1.seq: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES			
Result No.	Score	Query Match Length DB ID	Description
1	33	3.9 751 4	US-09-039-982A-34
2	33	3.9 751 4	US-09-039-641-34
3	33	3.9 751 4	US-09-039-762A-34
4	33	3.9 751 4	US-09-042-492D-34
5	33	3.9 751 4	US-08-913-612A-34
6	33	3.9 972 4	US-08-848-760B-11
7	33	3.9 1002 4	US-09-039-982A-33
8	33	3.9 1002 4	US-09-039-641-33
9	33	3.9 1002 4	US-09-042-492D-33
10	33	3.9 1002 4	US-08-913-612A-33
11	33	3.9 1002 4	US-08-456-104-1
12	33	3.9 1120 2	US-08-101-624-1
13	33	3.9 1120 2	US-08-479-744A-1
14	33	3.9 1120 3	US-08-280-757B-1
15	33	3.9 1120 3	US-08-205-697A-22
16	33	3.9 1120 4	US-08-702-525-22
17	33	3.9 1120 4	US-08-403-253A-3
18	33	3.9 1120 5	PCT-US95-02576-22
19	33	3.9 1120 5	US-08-205-697A-24
20	33	3.9 1161 4	US-08-702-525-24
21	33	3.9 1161 5	PCT-US95-02576-24
22	33	3.9 1424 4	US-09-326-186B-226
23	33	3.9 1428 5	PCT-US94-09642-1
24	33	3.9 330 3	US-08-479-744A-44
25	32	3.8 330 3	US-08-280-757B-44
26	32	3.8 28 2	US-08-859-998-601
27	27	3.2	Sequence 601, App

28	27	3.2	28	4	US-09-225-928-601	Sequence 601, App
29	24	2.9	62	3	US-08-479-744A-53	Sequence 53, App1
30	24	2.9	62	3	US-08-280-757B-53	Sequence 53, App1
31	24	2.9	63	3	US-08-479-744A-52	Sequence 52, App1
32	24	2.9	63	3	US-08-280-757B-52	Sequence 52, App1
33	24	2.9	306	3	US-08-479-744A-46	Sequence 46, App1
34	21	2.5	310	4	US-08-280-757B-46	Sequence 46, App1
35	21	2.5	210	4	US-08-205-697A-31	Sequence 31, App1
36	21	2.5	210	5	US-08-702-525-31	Sequence 31, App1
37	21	2.5	210	5	PCT-US95-02576-31	Sequence 31, App1
38	20	2.4	20	4	US-09-326-186B-186	Sequence 186, App
39	20	2.4	195	4	US-09-326-186B-188	Sequence 186, App
40	19	2.3	195	4	US-08-205-697A-41	Sequence 41, App1
41	19	2.3	195	4	US-08-702-525-41	Sequence 41, App1
42	19	2.3	195	5	PCT-US95-02576-41	Sequence 41, App1
43	18	2.1	18	2	US-08-585-664B-2598	Sequence 2598, App
44	18	2.1	18	4	US-09-038-073-2598	Sequence 2598, App
45	17	2.0	54	3	US-09-029-267-7	Sequence 7, App1
46	17	2.0	54	3	US-09-029-267-25	Sequence 25, App1
47	17	2.0	56	3	US-09-029-267-30	Sequence 30, App1
48	17	2.0	187	4	US-09-280-116-170	Sequence 170, App
49	17	2.0	219	6	5217896-6	Patent No. 5217896
50	17	2.0	390	3	US-09-028-267-13	Sequence 13, App1
51	17	2.0	1151	2	US-08-456-104-3	Sequence 3, App1
52	17	2.0	1151	4	US-08-205-697A-20	Sequence 20, App1
53	17	2.0	1151	4	US-08-702-525-20	Sequence 20, App1
54	17	2.0	1151	5	PCT-US95-02576-20	Sequence 20, App1
55	17	2.0	1163	3	US-08-479-744A-22	Sequence 22, App1
56	17	2.0	1163	3	US-08-280-757B-22	Sequence 22, App1
57	17	2.0	1261	4	US-08-205-697A-12	Sequence 12, App1
58	17	2.0	1261	4	US-08-702-525-12	Sequence 12, App1
59	17	2.0	1261	5	PCT-US95-02576-12	Sequence 12, App1
60	17	2.0	1492	3	US-08-350-468-7	Sequence 7, App1
61	17	2.0	1716	3	US-09-029-267-1	Sequence 1, App1
62	17	2.0	2885	1	US-08-920-812-4	Sequence 4, App1
63	17	2.0	2885	1	US-08-920-812-4	Sequence 4, App1
64	17	2.0	2885	1	US-08-921-177-4	Sequence 4, App1
65	17	2.0	2885	1	US-08-362-577C-4	Sequence 4, App1
66	17	2.0	2885	2	US-08-920-828-4	Sequence 4, App1
67	17	2.0	19011	2	US-08-310-356-16	Sequence 16, App1
68	17	2.0	19557	5	PCT-US92-06300-1	Sequence 1, App1
69	16	1.9	18	2	US-08-585-664B-2586	Sequence 2586, App
70	16	1.9	18	4	US-09-038-073-2586	Sequence 2586, App
71	16	1.9	270	1	US-08-127-954-54	Sequence 54, App1
72	16	1.9	270	1	US-08-127-954-55	Sequence 55, App1
73	16	1.9	270	1	US-08-127-954-56	Sequence 56, App1
74	16	1.9	270	1	US-08-127-954-57	Sequence 57, App1
75	16	1.9	270	1	US-08-127-954-58	Sequence 58, App1
76	16	1.9	270	1	US-08-127-954-59	Sequence 59, App1
77	16	1.9	270	1	US-08-127-954-60	Sequence 60, App1
78	16	1.9	270	1	US-08-127-954-61	Sequence 61, App1
79	16	1.9	270	1	US-08-127-954-62	Sequence 62, App1
80	16	1.9	571	4	US-09-404-879A-82	Sequence 82, App1
81	16	1.9	1255	4	US-09-149-476-75	Sequence 75, App1
82	16	1.9	1392	4	US-09-130-616-171	Sequence 171, App
83	16	1.9	1437	4	US-09-134-001C-2228	Sequence 2228, App
84	16	1.9	1443	2	US-08-454-557C-13	Sequence 13, App1
85	16	1.9	1443	2	US-08-340-4260-13	Sequence 13, App1
86	16	1.9	1443	2	US-08-450-673C-13	Sequence 13, App1
87	16	1.9	1443	2	PCT-US95-1111A-13	Sequence 13, App1
88	16	1.9	1523	4	US-09-130-616-172	Sequence 172, App
89	16	1.9	1563	4	US-09-292-858B-11	Sequence 11, App1
90	16	1.9	1619	4	US-09-130-616-173	Sequence 173, App
91	16	1.9	1780	5	PCT-US94-12913A-17	Sequence 17, App1
92	16	1.9	1782	3	US-09-209-668-16	Sequence 16, App1
93	16	1.9	1782	4	US-09-130-616-169	Sequence 169, App
94	16	1.9	1994	3	US-08-600-882-22	Sequence 22, App1
95	16	1.9	2499	5	PCT-US94-10262A-22	Sequence 22, App1
96	16	1.9	2499	1	US-08-485-618-96	Sequence 96, App1
97	16	1.9	2499	1	US-08-605-672-96	Sequence 96, App1
98	16	1.9	2499	2	US-08-482-293A-96	Sequence 96, App1
99	16	1.9	2499	2	US-08-943-363-96	Sequence 96, App1
100	16	1.9	2499	4	US-09-193-043-96	Sequence 96, App1

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 1574.63 Seconds

(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-19

Perfect score: 840

Sequence: 1 atgtatctcagatgacatct.....acaacagctactacacagttt 840

Scoring table: OLIGO_NWC
Gapop 60.0 , Gapext 60.0

Searched: 16154066 seqs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

EST:*
1: em_estba:*
2: em_esthum:*
3: em_estlin:*
4: em_estmu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_hlc:*
9: gb_est1:*
10: gb_est2:*
11: gb_hlc:*
12: gb_est3:*
13: gb_est4:*
14: gb_est5:*
15: em_esthum:*
16: em_estom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_inv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_fod:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	44	5.2	448	9	AA056906 EST224R.P
2	33	3.9	655	13	B1824940 B0109553
3	33	3.9	709	14	B0109553 B1906246
4	33	3.9	753	13	B1906246 603063172
5	22	2.6	578	13	BM089797 503647 MA
6	21	2.5	211	14	N98388 za71h02.r1

7	21	2.5	227	9	A1424694
8	21	2.5	243	9	A1418705
9	21	2.5	258	9	A1208150
10	21	2.5	299	12	BG197470
11	21	2.5	312	12	BG185108
12	21	2.5	335	9	A1240804
13	21	2.5	336	12	BG190424
14	21	2.5	338	12	BG1901615
15	21	2.5	338	12	BG192964
16	21	2.5	344	9	A1990186
17	21	2.5	345	12	BG193509
18	21	2.5	347	12	BG001664
19	21	2.5	358	10	AW901624
20	21	2.5	370	10	AW901623
21	21	2.5	378	9	AA973397
22	21	2.5	380	10	AW901617
23	21	2.5	390	9	A1027674
24	21	2.5	391	9	A1632116
25	21	2.5	392	9	AA748416
26	21	2.5	393	9	A1435323
27	21	2.5	397	12	BG202649
28	21	2.5	399	12	BG184062
29	21	2.5	400	12	BG196006
30	21	2.5	404	12	BG194842
31	21	2.5	405	12	BG194484
32	21	2.5	405	12	BG199567
33	21	2.5	406	9	A1559219
34	21	2.5	406	12	BG192422
35	21	2.5	406	12	BG120605
36	21	2.5	409	12	BG209496
37	21	2.5	412	12	BG192423
38	21	2.5	414	12	BG185632
39	21	2.5	414	12	BG190905
40	21	2.5	414	12	BG192421
41	21	2.5	414	12	BG194011
42	21	2.5	414	12	BG200091
43	21	2.5	414	12	BG200897
44	21	2.5	415	12	BG219185
45	21	2.5	415	12	BG214212
46	21	2.5	416	12	BG211011
47	21	2.5	416	12	BG211511
48	21	2.5	417	12	BG214715
49	21	2.5	418	12	BG197469
50	21	2.5	419	12	BG206317
51	21	2.5	421	12	BG188790
52	21	2.5	421	12	BG207334
53	21	2.5	422	12	BG182497
54	21	2.5	422	12	BG183017
55	21	2.5	423	12	BG215816
56	21	2.5	424	12	BG194483
57	21	2.5	425	12	BG183018
58	21	2.5	425	12	BG220420
59	21	2.5	426	10	AW168820
60	21	2.5	431	12	BG221377
61	21	2.5	433	14	N26833
62	21	2.5	434	12	BG216890
63	21	2.5	435	9	AA836228
64	21	2.5	435	12	BG220419
65	21	2.5	436	9	A1018441
66	21	2.5	440	9	A1362266
67	21	2.5	442	12	BG220898
68	21	2.5	443	9	A1123425
69	21	2.5	444	10	AA440534
70	21	2.5	444	14	N64336
71	21	2.5	454	9	AA243790
72	21	2.5	455	9	A1224951
73	21	2.5	457	12	BG199029
74	21	2.5	458	12	BG193508
75	21	2.5	459	12	BG185634
76	21	2.5	461	10	AW510652
77	21	2.5	465	12	BG218537
78	21	2.5	468	10	AW173172
79	21	2.5	468	10	AW173172

AA1424694 t64d03.x
AA1418705 t67b02.x
AA1208150 q932h12.x
AA197470 r87b12.x
AA185108 r87b12.x
AA1240804 qh54c05.x
AA190424 r879495.A
AA1901615 RC0-NN101
AA192964 RST12089
AA1990186 w43810.x
AA193509 RST12643
AA001664 RC4-6N006
AA901624 RC0-NN101
AA901623 RC0-NN101
AA973397 o044a04.s
AA901617 RC0-NN101
AA1027674 ovr83h10.x
AA1632116 t485b01.x
AA148416 o456d09.s
AA1435323 t172b06.x
AA202649 RST22013
AA184062 RST2978.A
AA196006 RST15214
AA194842 RST14144
AA194484 RST13643
AA199567 RST18858
AA1559219 t432b07.x
AA192422 RST11536
AA120605 RST30038
AA186104 RST5129.A
AA209496 RST29017
AA192423 RST11537
AA185632 RST4583.A
AA190905 RST19986.A
AA192421 RST11535
AA194011 RST13153
AA200091 RST19394
AA20897 RST400696
AA191385 RST10478
AA214212 RST33846
AA211011 RST30567
AA211511 RST31078
AA214715 RST34365
AA197469 RST16714
AA206317 RST25762
AA188790 RST7824.A
AA207334 RST26811
AA182497 RST1373.A
AA183017 RST1902.A
AA215816 RST35496
AA194483 RST13642
AA183018 RST1903.A
AA220420 RST40203
AA168820 x13e08.x
AA221377 RST41188
AA26833 yv65f09.s1
AA216890 RST36590
AA836228 o023h09.s
AA220419 RST40202
AA1018441 ovr3a06.s
AA136226 qv50e07.x
AA220898 RST40697
AA1123425 q449c08.x
AA440534 x13c11.x
AA243790 z17f102.r
AA1224951 q131e08.x
AA199029 RST18305
AA193508 RST12642
AA185634 RST4585.A
AA510652 hc89b04.x
AA218537 RST38161
AA173172 xj64c05.x

```

80      21      2.5      470      14      B0029054
81      21      2.5      473      9      A1088713
82      21      2.5      473      12      BF232484
83      21      2.5      474      9      A1264250
84      21      2.5      474      9      A1421543
85      21      2.5      474      9      A1804063
86      21      2.5      478      10      AM572903
87      21      2.5      480      9      A1750143
88      21      2.5      481      9      A1769012
89      21      2.5      481      12      B0318952
90      21      2.5      489      9      A1282134
91      21      2.5      489      9      A1889922
92      21      2.5      491      9      A1334030
93      21      2.5      496      10      AM516826
94      21      2.5      499      10      AM051810
95      21      2.5      505      9      A1769172
96      21      2.5      505      12      BF439216
97      21      2.5      507      10      AM991229
98      21      2.5      512      9      AA056905
99      21      2.5      513      12      BF197202
100     21      2.5      520      13      BM504702

```

ALIGNMENTS

```

RESULT 1
AA056906      448 bp      mRNA      linear      EST 18-SEP-1996
LOCUS
DEFINITION
EST224R Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
Sus scrofa cDNA clone SPL224 reverse similar to L25259 C17A4
counter-receptor, human, mRNA sequence.

```

```

ACCESSION
AA056906
VERSION
AA056906.1 GI:1549546
KEYWORDS
EST.
SOURCE
pig.
ORGANISM
Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

```

REFERENCE
1 (bases 1 to 448)
Tuglie,C.K., Mahls,S. and Schmitz,C.
TITLE
Expressed Sequence Tags from Pig Spleen
JOURNAL
Unpublished (1996)
COMMENT
Contact: Tuglie CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuglie@iastate.edu

```

```

FEATURES
source
location/Qualifiers
1..448
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue_type="spleen"
/dev_stage="adult"
/note="Oligo (dfr) primed"
BASE COUNT      126 a      116 c      89 g      116 t      1 others
ORIGIN

```

```

Query Match      5.2%; Score 44; DB 9; Length 448;
Best Local Similarity 100.0%; Pred. No. 1.2e-13;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

OY      381 TTTCGACCTATCAGTCTGTCTACTCAGTCACACCTGAATATA 424

```

```

DB      346 TTTCGACCTATCAGTCTGTCTACTCAGTCACACCTGAATATA 389

```

```

RESULT 2
B1824940      655 bp      mRNA      linear      EST 04-OCT-2001
LOCUS
DEFINITION
603032554F1 NIH_MGC_115 Homo sapiens cDNA clone IMAGE:5173789 5',
mRNA sequence.

```

```

ACCESSION
B1824940
VERSION
B1824940.1 GI:15936490
KEYWORDS
EST.
SOURCE
human.
ORGANISM
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

```

```

REFERENCE
1 (bases 1 to 655)
NIH-MGC http://mgc.ncl.nih.gov/.
AUTHORS
National Institutes of Health, Mammalian Gene Collection (MGC)
JOURNAL
Unpublished (1999)
COMMENT
Contact: Robert Strausberg, Ph.D.
Email: cgrabs-remail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LMNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LMNL at:
http://image.llnl.gov
Plate: LLM11432 row: 1 column: 14
High quality sequence start: 27
High quality sequence stop: 653.

```

```

FEATURES
source
location/Qualifiers
1..655
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5173789"
/clone_lib="NIH_MGC_115"
/lab_host="DH10B"
/note="Organ: pooled brain, lungs, testis; Vector:
PCMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA
source anonymous pool of 6 male brains, age 69. Library is
male lung, age 27; and 1 male testis, age 69. Library is
oligo-dfr primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.8 kb,
insert size range 1-3 kb. Library is normalized and
enriched for full-length clones and was constructed by C.
Gruber (Invitrogen). Research Genetics tracking code
021. Note: this is a NIH-MGC Library."

```

```

BASE COUNT      194 a      147 c      145 g      169 t
ORIGIN

```

```

Query Match      3.9%; Score 33; DB 13; Length 655;
Best Local Similarity 100.0%; Pred. No. 3e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

OY      391 TCAGTCTTGTCTACTCAGTCACCTGAATATA 423
DB      538 TCAGTCTTGTCTACTCAGTCACCTGAATATA 570

```

```

RESULT 3
BQ109553      709 bp      mRNA      linear      EST 16-APR-2002
LOCUS
DEFINITION
IMAGE:5218562 5', mRNA sequence.
ACCESSION
BQ109553
VERSION
BQ109553.1 GI:20159207
KEYWORDS
EST.
SOURCE
human.
ORGANISM
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

```

```

Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

```

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 2889.24 seconds

(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-28

Perfect score: 996
Sequence: 1 atggcgatttggcagcagc.....acaaagactacacattt 996

Scoring table: OLIGO-NWC

Gapop 60.0 , Gapext 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : GenEmbl:*

```
1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pin:*
35: em_htg_rod:*
36: em_htg_mam:*
37: em_htg_vit:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*
```

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	996	100.0	2830	4 AY007704	AY007704 Fells cat
2	948	95.2	1138	4 AF157827	AF157827 Fells cat
3	948	95.2	1270	4 AB030652	AB030652 Fells cat
4	61	6.1	1795	4 AF106827	AF106827 Canis fam
5	61	6.1	1897	4 AF106826	AF106826 Canis fam
6	40	4.0	994	4 PIGCD86C	PIGCD86C Sus scrofa
7	40	4.0	994	4 AX027016	AX027016 Sequence
8	39	3.9	924	4 BTA291475	BTA291475 Bos taurus
9	33	3.3	738	6 AX002781	AX002781 Sequence
10	33	3.3	738	6 AX149548	AX149548 Sequence
11	33	3.3	751	6 AR147737	AR147737 Sequence
12	33	3.3	751	6 AR159759	AR159759 Sequence
13	33	3.3	751	6 AR160451	AR160451 Sequence
14	33	3.3	751	6 AR202407	AR202407 Sequence
15	33	3.3	972	6 AX027005	AX027005 Sequence
16	33	3.3	1002	6 AR147736	AR147736 Sequence
17	33	3.3	1002	6 AR159758	AR159758 Sequence
18	33	3.3	1002	6 AR160450	AR160450 Sequence
19	33	3.3	1002	6 AR202406	AR202406 Sequence
20	33	3.3	1044	9 AF344851	AF344851 Macaca ne
21	33	3.3	1048	9 AF344857	AF344857 Macaca mu
22	33	3.3	1062	9 AF344840	AF344840 Cercopit
23	33	3.3	1062	9 AF344861	AF344861 Cercopit
24	33	3.3	1112	9 HUMB72A	HUMB72A Human CTIA4
25	33	3.3	1120	6 AR030780	AR030780 Sequence
26	33	3.3	1120	6 AR112747	AR112747 Sequence
27	33	3.3	1120	6 AR146413	AR146413 Sequence
28	33	3.3	1120	6 AR196804	AR196804 Sequence
29	33	3.3	1120	6 AX047043	AX047043 Sequence
30	33	3.3	1161	6 AR146414	AR146414 Sequence
31	33	3.3	1424	6 AR178980	AR178980 Sequence
32	33	3.3	1424	6 AX330924	AX330924 Sequence
33	33	3.3	1424	6 AX332506	AX332506 Sequence
34	33	3.3	1424	6 HSU04343	HSU04343 Human CD86
35	33	3.3	2205	6 AX188198	AX188198 Sequence
36	30	3.0	195	6 AR146423	AR146423 Sequence
37	37	3.0	1156	4 RABCD86B	RABCD86B Rattus norv
38	28	2.8	420	10 MMB72G07	MMB72G07 Rattus norv
39	28	2.8	930	6 AX027012	AX027012 Sequence
40	28	2.8	984	10 AF065897	AF065897 Mus muscu
41	28	2.8	984	10 AF065898	AF065898 Mus muscu
42	28	2.8	984	10 AF065899	AF065899 Mus muscu
43	28	2.8	984	10 AF065900	AF065900 Mus muscu
44	28	2.8	1115	10 S70108	S70108 early T cel
45	28	2.8	1151	6 AR030781	AR030781 Sequence
46	28	2.8	1151	6 AR146412	AR146412 Sequence
47	28	2.8	1163	6 AR112764	AR112764 Sequence
48	28	2.8	1183	10 M05B72X	M05B72X Murine B7-2
49	28	2.8	1261	6 AR146408	AR146408 Sequence
50	28	2.8	2528	10 BC013807	BC013807 Mus muscu
51	28	2.8	67483	2 AC117662	AC117662 Mus muscu
52	27	2.7	28	6 AR090481	AR090481 Sequence
53	27	2.7	28	6 AR197516	AR197516 Sequence
54	27	2.7	306	6 AR112784	AR112784 Sequence
55	27	2.7	737	9 HSB72S5	HSB72S5 Human CTIA-
56	27	2.7	901	9 AF344836	AF344836 Papio cyn
57	27	2.7	164161	9 AC068630	AC068630 Homo sapi
58	24	2.4	62	6 AR112790	AR112790 Sequence
59	24	2.4	63	6 AR112789	AR112789 Sequence
60	23	2.3	330	6 AR112783	AR112783 Sequence
61	23	2.3	449	10 RNU31330	RNU31330 Rattus norv
62	23	2.3	741	9 HSB72S4	HSB72S4 Human CTIA-
63	23	2.3	942	6 E14273	E14273 Rattus norv
64	23	2.3	942	10 D50558	D50558 Rattus norv
65	23	2.3	186866	2 AC106085	AC106085 Rattus norv

66	2.2	66325	2	AC016425	Homo sapi
67	2.2	75974	2	AC090991	Homo sapi
68	2.2	81323	2	AC099244	Rattus no
69	2.2	94203	2	AC023907	Homo sapi
70	2.2	98469	2	AC010936	Rattus no
71	2.2	171124	2	AC107124	Rattus no
72	2.2	175122	2	AC111364	Rattus no
73	2.2	175182	2	AC112593	Rattus no
74	2.2	208230	9	AC090651	Homo sapi
75	2.2	221789	2	AC115967	Mus muscu
76	2.2	262549	2	AC113623	Rattus no
77	2.1	133	4	AF222915	Sus scrof
78	2.1	505	6	AX153653	Sequence
79	2.1	1546	8	AX054163	Arabidops
80	2.1	1649	8	AF428395	Arabidops
81	2.1	53785	2	AC099866	Mus muscu
82	2.1	53785	2	AC099866	Mus muscu
83	2.1	75803	8	AB016890	Arabidops
84	2.1	91448	9	AL672061	Human DNA
85	2.1	103610	9	HS072408	Human DNA
86	2.1	149810	2	AL691455	Homo sapi
87	2.1	158647	2	AC103495	Rattus no
88	2.1	159020	9	AL450307	Human DNA
89	2.1	163584	2	AC127843	Rattus no
90	2.1	166384	2	AC113446	Mus muscu
91	2.1	167469	2	AC113882	Rattus no
92	2.1	174662	2	AC026036	Homo sapi
93	2.1	177552	2	AC099361	Rattus no
94	2.1	181842	2	AL391823	Homo sapi
95	2.1	185574	2	AC128374	Rattus no
96	2.1	205221	2	AC115723	Mus muscu
97	2.1	226040	2	AC124414	Mus muscu
98	2.0	20	6	AB178763	Sequence
99	2.0	20	6	AB178942	Sequence
100	2.0	22	6	AX088416	Sequence

ALIGNMENTS

RESULT 1					
LOCUS	AY007704	2830 bp	mRNA	linear	MAM 03-OCT-2001
DEFINITION	Felis catus CD86 (CD86) mRNA, complete cds.				
ACCESSION	AY007704				
VERSION	AY007704.1	GI:15418725			
KEYWORDS					
SOURCE					
ORGANISM	Felis catus.				
	Eukaryota; Metazoa; Chordata; Cranialia; Vertebrata; Euteleostomi;				
	Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.				
REFERENCE	1 (bases 1 to 2830)				
AUTHORS	Yang, S., Sellins, K.S., Powell, T., Stoneman, E. and Sim, G. K.				
TITLE	Novel transcripts encoding secreted forms of feline CD80 and CD86				
JOURNAL	costimulatory molecules				
MEDLINE	21390213				
PUBMED	11498243				
REFERENCE	2 (bases 1 to 2830)				
AUTHORS	Yang, S.				
TITLE	Direct Submission				
JOURNAL	Submitted (06-SEP-2000) Immunology, Heskia Corporation, 1613				
	Prospect Parkway, Ft Collins, CO 80525, USA				
FEATURES					
source	1..2830				
	Location/Qualifiers				
	/organism="Felis catus"				
gene	/db_xref="taxon:9685"				
	1..2830				
	/gene="CD86"				
CDs	179..1177				
	/gene="CD86"				
	/note="CD28/CTLA4 counter receptor; B7-2 protein"				
	/codon_start=1				

		/product="CD86"	
		/protein_id="AAG23342.1"	
		/db_xref="GI:15418726"	
		/translation="MGIQSTYGLSHLTLLVMAALLISGVSSKMSQAVFNKTEGELPCHFT	
		NSQNIISLDELVFWDPDKLVLEYEIFRGENQNVHLRYKRTSFDKNWTLRLNVQ	
		IDKGTVEHFHYHKGKGLPWHQMSDSLVAHNSQSEIVTSTSRNTNSGIIINTCS	
		SIQGYEPKEMFQNLNENSTKYDPTMNSQNTYELFVNSISLPEVPEAHNVSVF	
		CALKLETLMLSLPENIDAPQKRDDEQGHLMIAAVLVYVVSQGVSTFKLRK	
		KKQPSGSHCEITKREKRSKQTNREVPYHVERDEACINILMTASGDSTTHF"	
BASE COUNT		877 a 570 c 586 g 797 t	
ORIGIN			
Query Match		100.0%; Score 996; DB 4; Length 2830;	
Best Local Similarity		100.0%; Pred. No. 0;	
Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;			
QY	1	ATGGGCAATTTGTGACAGACACTATGAGAGTGTACACTCTCTTGATGAGCCCTCTG	60
DB	179	ATGGGCAATTTGTGACAGACACTATGAGAGTGTACACTCTCTTGATGAGCCCTCTG	238
QY	61	CTCTCTGCTGTTCTTCATGAGAGTGTACACTCTCTTGATGAGCCCTCTG	120
DB	239	CTCTCTGCTGTTCTTCATGAGAGTGTACACTCTCTTGATGAGCCCTCTG	298
QY	121	TGCAATTTTAAACACTCTCAAAACATAGCCCTGATGAGCTGATATTTTGGCAGAC	180
DB	299	TGCAATTTTAAACACTCTCAAAACATAGCCCTGATGAGCTGATATTTTGGCAGAC	358
QY	181	CAGATTAAGCTGCTCTGTATGAGATATTCAGAGCAAGCAAGCAAGCAAGCAAG	240
DB	359	CAGATTAAGCTGCTCTGTATGAGATATTCAGAGCAAGCAAGCAAGCAAGCAAG	418
QY	241	CTCAAAATATAGAGGCGGTCAACCTTTGACAAGCAAGCAAGCAAGCAAGCAAG	300
DB	419	CTCAAAATATAGAGGCGGTCAACCTTTGACAAGCAAGCAAGCAAGCAAGCAAG	478
QY	301	GTTTCAGATCAAGGAGGAGGACATATCACTGTTTCATATATATTAAGGCGCAAG	360
DB	479	GTTTCAGATCAAGGAGGAGGACATATCACTGTTTCATATATATTAAGGCGCAAG	538
QY	361	CTAGTTCCTCATGACCAAAATGAGATTTGACCTTCAGCTGTCTTAATTTCACTCA	420
DB	539	CTAGTTCCTCATGACCAAAATGAGATTTGACCTGTCTTAATTTCACTCACTCA	598
QY	421	GAATATACAGTAACTTCTATAGACAGAAATTCGGCATCAATATTTGACCTCTCA	480
DB	599	GAATATACAGTAACTTCTATAGACAGAAATTCGGCATCAATATTTGACCTCTCA	658
QY	481	TCTATACAGGTTACCCAGAACCTTAAGAGATGATTTTCAGCTAAACACTGAAATTA	540
DB	659	TCTATACAGGTTACCCAGAACCTTAAGAGATGATTTTCAGCTAAACACTGAAATTA	718
QY	541	ACTACTAGATATATATCTGATGAGAAATTCCAAAATATATGACAGACGTACAC	600
DB	719	ACTACTAGATATATATCTGATGAGAAATTCCAAAATATATGACAGACGTACAC	778
QY	601	GTTTCTATACAGTTCGCTTTTTCAGTCCCTGAAGCAACATGAGCGCTTTTGTGCG	660
DB	779	GTTTCTATACAGTTCGCTTTTTCAGTCCCTGAAGCAACATGAGCGCTTTTGTGCG	838
QY	661	CTGAAGTGAAGACCTGAGATGCTGCTCCCTACCTTCATATATAGATGACAACT	720
DB	839	CTGAAGTGAAGACCTGAGATGCTGCTCCCTACCTTCATATATAGATGACAACT	898
QY	721	AAAGATTAAGACCTGAGATGCTGCTCCCTACCTTCATATATAGATGACAACT	780
DB	899	AAAGATTAAGACCTGAGATGCTGCTCCCTACCTTCATATATAGATGACAACT	958
QY	781	GTTGTTTTTGTGAGATGCTGCTTTTAAACACTTAAGGAAAGAAAGAAAGAGCGCT	840
DB	959	GTTGTTTTTGTGAGATGCTGCTTTTAAACACTTAAGGAAAGAAAGAAAGAGCGCT	1018
QY	841	GGCCCTCTCATGATGATGAAACCATCAAAAGGAGAGAAAGAGAGCAAGCAAGCAAC	900


```

Db 1019 GGGCCCTCTCATGAATGTGAACCAACAAAGGAGGAGAAAGAGCCAAAGACCAAC 1078
OY 901 GAAAGATGACATACACGACCTGAGATGATGATGAGCCGAGTATTAACATTTTG 960
Db 1079 GAAAGATGACATACACGACCTGAGATGATGATGAGCCGAGTATTAACATTTTG 1138
OY 961 AAGACAGCCTCAAGGAGCAAAAGTACTACACATTTT 996
Db 1139 AAGACAGCCTCAAGGAGCAAAAGTACTACACATTTT 1174

RESULT 2
AF157827 1138 bp mRNA linear MAM 08-MAY-2000
LOCUS AF157827
DEFINITION Fells catus CD86 antigen (CD86) mRNA, complete cds.
ACCESSION AF157827
VERSION AF157827.1 GI:5381423
KEYWORDS
SOURCE Fells catus.
ORGANISM Fells catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Fells.
REFERENCE
1 (bases 1 to 1138)
AUTHORS Choi, I.-S., Hash, S.M., Winslow, B.J. and Collisson, E.W.
TITLE Sequence analyses of feline B7 costimulatory molecules
JOURNAL Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)
MEDLINE 20180222
PUBMED 10713336
REFERENCE
2 (bases 1 to 1138)
AUTHORS Choi, I.-S., Hash, S., Winslow, B.J. and Collisson, E.W.
TITLE Direct Submission
JOURNAL Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M
University, Bldg. 1197 Rm. 222, College Station, TX 77843, USA
FEATURES
source
1. .1138
/organism="Fells catus"
/db_xref="taxon:9685"
1. .1138
/gene="CD86"
63..1052
/gene="CD86"
/note="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"
/protein_id="AAD42974.1"
/db_xref="GI:5381424"
/translation="WGICDSTWGLSHITLLVALLISVSMKSAENKTELPCHFT
NSQNSLDELVWQDOKLVLEYETFRKENQNVNHLVKGTSRDKNMTLRHNVQ
IKDKGTYHCFIHKGPKGLVPMHOMSSDLSVLANSOPEIITVTSRTPNSGILNITCS
SIQGYPEPEKFNFTENSTTKYDTVMKSONNVTLEYNVSISLPSFVPAHNVSF
CALKLETEMLISLPNTIDAOBKDPDROGHMIAAVLVMFVYVCCGMVSFKTLARKK
KKQPGPSHECEIKERKESKOTNERVYHNPERSDEACVAILKTASGDKNQ"
BASE COUNT 358 a 245 c 246 g 289 t
ORIGIN
Query Match 95.2%; Score 948; DB 4; Length 1138;
Best local similarity 100.0%; Pred. No. 0;
Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 ATGGGATTTGTGACAGCACTATGGAGCTGAGTACACACTCTCTTGATGGCCCTCTCG 60
Db 63 ATGGGATTTGTGACAGCACTATGGAGCTGAGTACACACTCTCTTGATGGCCCTCTCG 122
OY 61 CTCTCGGTGTTTCTTCATGAAGAGTCAAGCATATTTTCAACAAGACTGAGACTGCCA 120
Db 123 CTCTCGGTGTTTCTTCATGAAGAGTCAAGCATATTTTCAACAAGACTGAGACTGCCA 182
OY 121 TGCCATTTTACAACACTCTCAAAACATTAAGCCTGATGAGCTGATAGTATTTTGGCAGGAC 180
Db 183 TGCCATTTTACAACACTCTCAAAACATTAAGCCTGATGAGCTGATAGTATTTTGGCAGGAC 242
OY 181 CAGGATTAAGCTGTTCTGTATGAGATATTTCAGAGGCAAGAAAGCAACCTCAAAATGTTTCA 240

```

```

Db 243 CAGGATTAAGCTGTTCTGTATGAGATATTTCAGAGGCAAGAAAGCAACCTCAAAATGTTTCA 302
OY 241 CTCAATTAAGGCGCCGTCACAGCTTTTGACAGAGACCAACTGGACCTGAGACTCCAAAT 300
Db 303 CTCAATTAAGGCGCCGTCACAGCTTTTGACAGAGACCAACTGGACCTGAGACTCCAAAT 362
OY 301 GTTCAGATCAAGAGCAAGGACACATATACATGTTTCACTTCTTAAAGGAGCCCAAGGA 360
Db 363 GTTCAGATCAAGAGCAAGGACACATATACATGTTTCACTTCTTAAAGGAGCCCAAGGA 422
OY 361 CTAGTCCCATGACACCAATAGATTCTGACCTATACGTGCTTGTAACTTCAGTCAACT 420
Db 423 CTAGTCCCATGACACCAATAGATTCTGACCTATACGTGCTTGTAACTTCAGTCAACT 482
OY 421 GAAATTAAGATACCTTCTTAATAGAAGCAAAATCTGGCATCATTAATTTTGACCTGCTCA 480
Db 483 GAAATTAAGATACCTTCTTAATAGAAGCAAAATCTGGCATCATTAATTTTGACCTGCTCA 542
OY 481 TCTATACAGGTTACCCAGACCTAAGAGATGATTCTTTCAGTAAACACTGAGAAATTC 540
Db 543 TCTATACAGGTTACCCAGACCTAAGAGATGATTCTTTCAGTAAACACTGAGAAATTC 602
OY 541 ACTACTAAGTATGATVACTGTGATGAAGAATCTCAAAATAATGTGACAGAACTGTACAC 600
Db 603 ACTACTAAGTATGATVACTGTGATGAAGAATCTCAAAATAATGTGACAGAACTGTACAC 662
OY 601 GTTCTATACAGCTGTCCTTTTTCAGTCCCTGAAGACACCAATGTGAGCGCTTTTGAGCC 660
Db 663 GTTCTATACAGCTGTCCTTTTTCAGTCCCTGAAGACACCAATGTGAGCGCTTTTGAGCC 722
OY 661 CTGAACCTGAGACACCTGGAGATGCTGCTCCCTACCTTCATATAGATGACACACT 720
Db 723 CTGAACCTGAGACACCTGGAGATGCTGCTCCCTACCTTCATATAGATGACACACT 782
OY 721 AAGATTAAGACCTGTAACCAAGGCGCACTTCTCTGATTTGGCGGTGATGTAATGTTT 780
Db 783 AAGATTAAGACCTGTAACCAAGGCGCACTTCTCTGATTTGGCGGTGATGTAATGTTT 842
OY 781 GTTGTGTTTGTGGATGATGTCCTTTTAAACACTAAGAGAAAGAGAAACACACCT 840
Db 843 GTTGTGTTTGTGGATGATGTCCTTTTAAACACTAAGAGAAAGAGAAACACACCT 902
OY 841 GGCCCTCTCATGAATGTGAACCACTCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 900
Db 903 GGCCCTCTCATGAATGTGAACCACTCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 962
OY 901 GAAAGATTAACATACACGATCTGAGAGATCTGATGAAGGCCAGGTG 948
Db 963 GAAAGATTAACATACACGATCTGAGAGATCTGATGAAGGCCAGGTG 1010

RESULT 3
AB030652 1270 bp mRNA linear MAM 01-MAR-2001
LOCUS AB030652
DEFINITION Fells catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
complete cds.
ACCESSION AB030652
VERSION AB030652.1 GI:9796387
KEYWORDS B-lymphocyte activation antigen B7-2 (CD86).
SOURCE Fells catus peripheral blood mononuclear cell cDNA to mRNA.
ORGANISM Fells catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Fells.
REFERENCE
1 (sites)
AUTHORS Nishimura, Y., Shimojima, M., Miyazawa, T., Sato, E., Nakamura, K.,
Izumiya, Y., Ikeda, Y., Mikami, T. and Takahashi, E.
TITLE Molecular cloning of the cDNAs encoding the feline B-lymphocyte
activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
interact with human CTLA4-Ig
JOURNAL Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
MEDLINE 20485322
REFERENCE 2 (bases 1 to 1270)

```

VLQLESMKLPSPYNIETNKVERKESEQTKEVRVYHETERSDAQC VNISKTA.

RESULT 7
AX027016

LOCUS AX027016 994 bp DNA linear PAT 16-SEP-2000
DEFINITION Sequence 13 from Patent WO0037102.
ACCESSION AX027016
VERSION AX027016.1 GI:10188045
KEYWORDS
SOURCE
ORGANISM
Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.
REFERENCE
AUTHORS Rogers, N.J., Dorling, A. and Lechler, R.I.
TITLE 1 (bases 1 to 994)
JOURNAL Immunosuppression
Patent: WO 0037102-A 13 29-JUN-2000;
ROGERS NICOLA JANE (GB) ; DORLING ANTHONY (GB) ; ML LAB PLC (GB) ;
LECHLER ROBERT IAN (GB)
FEATURES
source
1..994
/organism="Sus scrofa"
/db_xref="taxon:9823"
BASE COUNT 302 a 241 c 202 g 249 t
ORIGIN
Query Match 4.0%; Score 40; DB 6; Length 994;
Best Local Similarity 100.0%; Pred. No. 8.3e-11;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 810 AACACTAGGAAAGAGAGAGACGCTGCCCTCT 849
|||||
Db 789 AACACTAGGAAAGAGAGAGACGCTGCCCTCT 828
|||||
RESULT 8
BTA291475 924 bp mRNA linear MAM 14-OCT-2000
LOCUS
DEFINITION Bos taurus partial mRNA for CD86 antigen (CD86 gene).
ACCESSION AJ291475
VERSION AJ291475.1 GI:10803379
KEYWORDS B7-2; CD86 antigen; CD86 gene.
SOURCE
ORGANISM
Bos taurus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovidae; Bovinae; Bos..
1 (bases 1 to 924)
Brooke, G.P., Howard, C.J. and Parsons, K.R.
Cloning and distribution of cattle CD86
JOURNAL
REFERENCE
AUTHORS
TITLE Unpublished
JOURNAL
REFERENCE
AUTHORS Brooke, G.P.
TITLE Direct Submission
JOURNAL Submitted (12-OCT-2000) Brooke G.P., Cellular Immunology, Institute
For Animal Health, Compton, Berris, RG20 7NN, UNITED KINGDOM
FEATURES
source
1..924
/organism="Bos taurus"
/db_xref="taxon:9913"
/cell_type="monocyte"
/tissue_type="peripheral blood"
/dev_stage="adult"
/country="United Kingdom"
72..924
/gene="CD86"
72..>924
/gene="CD86"
/function="Immune response"
/codon_start=1
/product="CD86 antigen"
/protein_id="CAC13140.1"
/db_xref="GI:10803380"
/translation="MRKCTMGILNIIAGMLRLSVKVPFGSAALSKSHAPNETGE
LPCHPNTQNSLDELIVIFWDDQNKLYLYLFKQEKPNVNVKYGRTSPDDSWTL
RLHNVQIKDTGSIYCFIHRRSQGLVSIHQMSDLIVLANFSOPEIRLLINOTKSMI
INLTCSSIOGYPEPQRMVYSINTNTSSSTYDAVKKKSQNTITELYNVSISSFPPIPE

TNTVITICALOLEPTKIILSQPYNDKASPVPDPDHLIMAILVTVVSGMVELT
LKKKKKL"
BASE COUNT 295 a 226 c 175 g 228 t
ORIGIN
Query Match 3.9%; Score 39; DB 4; Length 924;
Best Local Similarity 100.0%; Pred. No. 3.1e-10;
Matches 39; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 466 AATTTGACCTGCTCATCTATACAGGTTACCCAGACCT 504
|||||
Db 555 AATTGACCTGCTCATCTATACAGGTTACCCAGACCT 593
|||||
RESULT 9
AX002781 738 bp DNA linear PAT 21-AUG-2000
LOCUS
DEFINITION Sequence 4 from Patent WO9855607.
ACCESSION AX002781
VERSION AX002781.1 GI:9885109
KEYWORDS
SOURCE
ORGANISM
synthetic construct.
synthetic construct.
artificial sequences.
REFERENCE
AUTHORS Bebbington, C.R. and Carroll, M.W.
TITLE 1 (bases 1 to 738)
JOURNAL Patent: WO 9855607-A 4 10-DEC-1998;
BEBBINGTON CHRISTOPHER ROBERT (GB); CARROLL MILES WILLIAM (GB)
FEATURES
source
1..738
/organism="synthetic construct"
/db_xref="taxon:32630"
1..>738
/note="unnamed protein product"
/codon_start=1
/transl_table=11
/protein_id="CAC04193.1"
/db_xref="GI:9885110"
/translation="MGLSNILFVMAFLSGAAPLKIQAIFNETADLPQGFANSONSL
SELVYFQDQENLIVNEYLGKEKEDSVSHKYGRTSPDSDSWTLRLHNLQIKKGLY
OCITHKKPTGTIRIHOHNSLSVLANFSOPEIRLVINVTINLTCSSIHGPEP
KMSVSLRKNTSTIETDGIKMSQDNVTELDVSISSVSPDVTSMNTIFCIETEK
TRLSSPSIELEDDPPDPDHPGGGGS"
BASE COUNT 215 a 168 c 148 g 207 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 738;
Best Local Similarity 100.0%; Pred. No. 8.2e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 394 TCAGTCTTGCCTAACTCACTCAACCTGAATTA 426
|||||
Db 373 TCAGTCTTGCCTAACTCACTCAACCTGAATTA 405
|||||
RESULT 10
AX149548 738 bp DNA linear PAT 08-JUN-2001
LOCUS
DEFINITION Sequence 9 from Patent WO0136486.
ACCESSION AX149548
VERSION AX149548.1 GI:14347987
KEYWORDS
SOURCE
ORGANISM
synthetic construct.
synthetic construct.
artificial sequences.
REFERENCE
AUTHORS Kingsman, A.O., Kingsman, S.M., Bebbington, C.R., Carroll, M.W.,
Ellard, F.M. and Myers, K.A.
TITLE Antibodies
JOURNAL Patent: WO 0136486-A 9 25-MAY-2001;
Oxford Biomedica (UK) limited (GB)
FEATURES
Location/Qualifiers

83	20	2.0	20	AAZ27949	Feline B7-2 gene s
84	20	2.0	20	AAZ27950	Feline B7-2 gene s
85	20	2.0	20	AAF32812	Human B7-2 mRNA an
86	20	2.0	20	AAF32991	Human B7-2 antisen
87	20	2.0	22	AAD02785	Human B7-2 PCR pri
88	20	2.0	22	AAZ27956	Feline B7-2 gene s
89	20	2.0	31	ABV56304	Human prostate exp
90	19	1.9	19	AAZ27927	Canine B7-2 DNA am
91	19	1.9	20	AAF32992	Human B7-2 antisen
92	19	1.9	20	AAF3185	Human B7-2 antisen
93	19	1.9	20	AAF3186	Human B7-2 antisen
94	19	1.9	326	AAI10624	Human secreted pro
95	19	1.9	341	AAH88072	Peppermint plant o
96	19	1.9	2358	AAI18743	CDNA encoding low-
97	19	1.9	2463	AAH42341	Nucleotide sequenc
98	19	1.9	2577	AAK35740	CDNA encoding a pr
99	19	1.9	2880	AA526889	Human cDNA encodin
100	19	1.9	3010	ABL61774	Colon adenocarcino

ALIGNMENTS

```
RESULT 1
AAZ27931
ID AAZ27931 standard; DNA; 996 BP.
XX
AC AAZ27931;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein coding sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KM allergic reaction; infectious disease; tumor development; feline;
KN graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
XX
PR 17-APR-1998; 98US-0062597.
XX
PA (HESKA) HESKA CORP.
XX
PI Slim G, Yang S, Sellins KS;
XX
DR WPI: 1999-571822/48.
XX
DR P-PSDB: AAY41079.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PS breeding, e.g. autoimmune and atopic diseases
XX
PS Claim 1: Page 123-124; 148bp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ sequence 996 BP; 319 A; 219 G; 203 C; 255 T; 0 other;
Query Match 100.0%; Score 996; DB 20; Length 996;
```

Best Local Similarity 100.0%; Pred. No. 0;									
Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;									
QY	1	ATGGGCAATTTGTGACACACTATGTGGAGTGCACCTCTCTTGATGAGCCCTCTCTG	60						
Db	1	ATGGGCAATTTGTGACACACTATGTGGAGTGCACCTCTCTTGATGAGCCCTCTCTG	60						
QY	61	CTCTCTGTGTTTCTTCATGAAAGATGACATATTTCAACAAAGCTGAGAACTGCCA	120						
Db	61	CTCTCTGTGTTTCTTCATGAAAGATGACATATTTCAACAAAGCTGAGAACTGCCA	120						
QY	121	TGCCATTTTCAAACTCTCAAAACATTAAGCTGATGAGCTGATATTTTGGCAGGAC	180						
Db	121	TGCCATTTTCAAACTCTCAAAACATTAAGCTGATGAGCTGATATTTTGGCAGGAC	180						
QY	181	CAGATTAAGCTGTCTCTGTATGATATTTAGAGGCAAAAGAACCTCAAAATTTTCAT	240						
Db	181	CAGATTAAGCTGTCTCTGTATGATATTTAGAGGCAAAAGAACCTCAAAATTTTCAT	240						
QY	241	CTCAATATTAAGGCGCGTACAGCTTGTACACAGACAACTGACCTGAGACTCCACAA	300						
Db	241	CTCAATATTAAGGCGCGTACAGCTTGTACACAGACAACTGACCTGAGACTCCACAA	300						
QY	301	GTTTCAGATCAAGGACAAAGGCGACATATCACTGTTTCATTATTAAGGCGCCAAAG	360						
Db	301	GTTTCAGATCAAGGACAAAGGCGACATATCACTGTTTCATTATTAAGGCGCCAAAG	360						
QY	361	CTAGTTCCTCAAGGACAAATAGATGATGCTGACCTTCAGCTGCTGCTTCACTCAACCT	420						
Db	361	CTAGTTCCTCAAGGACAAATAGATGATGCTGACCTTCAGCTGCTGCTTCACTCAACCT	420						
QY	421	GAATTAACAGTAACTTCTATAGAACAGAAATTTGCGATCAATTAATTTGACCTCTCA	480						
Db	421	GAATTAACAGTAACTTCTATAGAACAGAAATTTGCGATCAATTAATTTGACCTCTCA	480						
QY	481	TCTATACAGGTTACCCAGAACTAAGAGATGATTTTTCAGTAAACACTGGAATTTCA	540						
Db	481	TCTATACAGGTTACCCAGAACTAAGAGATGATTTTTCAGTAAACACTGGAATTTCA	540						
QY	541	ACTACTAGTATGATCTGATGAAAGAAATTCAAATATGAGACAGACCTGATCAAC	600						
Db	541	ACTACTAGTATGATCTGATGAAAGAAATTCAAATATGAGACAGACCTGATCAAC	600						
QY	601	GTTTCTATACAGCTTGCCTTTTTCAGTCCCTGAAGCAACATGTGAGCGCTTTGTGCC	660						
Db	601	GTTTCTATACAGCTTGCCTTTTTCAGTCCCTGAAGCAACATGTGAGCGCTTTGTGCC	660						
QY	661	CTGAAGCTGAGACACAGAGATGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT	720						
Db	661	CTGAAGCTGAGACACAGAGATGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT	720						
QY	721	AAGATTAAGACCTGAGACAGGACCTCTCTGATGAGGCTGATCTGATGATGTTT	780						
Db	721	AAGATTAAGACCTGAGACAGGACCTCTCTGATGAGGCTGATCTGATGATGTTT	780						
QY	781	GTTGTTTTTGTGGATGTGTCTTTTAAACACTAAGGAAAGAAAGAAAGACGCT	840						
Db	781	GTTGTTTTTGTGGATGTGTCTTTTAAACACTAAGGAAAGAAAGAAAGACGCT	840						
QY	841	GCGCCCTCTATATATGTGAACATCAAAAGGAGAAAGAAAGACGACGAC	900						
Db	841	GCGCCCTCTATATATGTGAACATCAAAAGGAGAAAGAAAGACGACGAC	900						
QY	901	GAAGAGTACCATACACAGTCTGAGAGATGAGTGAAGGACGAGTATTAACATTTT	960						
Db	901	GAAGAGTACCATACACAGTCTGAGAGATGAGTGAAGGACGAGTATTAACATTTT	960						
QY	961	AAGACAGCTCAGGCGACAAAGTACTACACATTTT	996						
Db	961	AAGACAGCTCAGGCGACAAAGTACTACACATTTT	996						

RESULT 2

AAZ27932/c
 ID AAZ27932 standard; DNA: 996 BP.
 XX
 AC AAZ27932:
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Complementary strand of feline B7-2 coding sequence.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN W09947558-A2.
 PD 23-SEP-1999.
 XX
 PE 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS:
 XX
 DR WPI; 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 124-125; 148bp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 SQ Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;

Query Match 100.0%; Score 996; DB 20; Length 996;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGGGCAATTGTGACAGCACTATGGAGCTGACACACTCTCTGTGTGATGGCCCTCTG 60
 DB 996 ATGGGCAATTGTGACAGCACTATGGAGCTGACACACTCTCTGTGTGATGGCCCTCTG 937
 QY 61 CTCCTGTGCTTTCTTCATGAAGCAAGCATATTTCAACAAGACTGGAGAACTGCCA 120
 DB 936 CTCCTGTGCTTTCTTCATGAAGCAAGCATATTTCAACAAGACTGGAGAACTGCCA 877
 QY 121 TGCCATTTTACAACTCCAAACATTAAGCCTGGATGAGCTGTGATTTTGGCAGGAC 180
 DB 876 TGCCATTTTACAACTCCAAACATTAAGCCTGGATGAGCTGTGATTTTGGCAGGAC 817
 QY 181 CAGGATTAAGCTGTCTCTATGAGATATTCAGAGGCAAAAGAACTCTCAAAATGTTTCA 240
 DB 816 CAGGATTAAGCTGTCTCTATGAGATATTCAGAGGCAAAAGAACTCTCAAAATGTTTCA 757
 QY 241 CTCAAATTAAGGCGGTACAGCTTTGACAAGAGCAAACTGAGCCCTGAACTCCACAAT 300
 DB 756 CTCAAATTAAGGCGGTACAGCTTTGACAAGAGCAAACTGAGCCCTGAACTCCACAAT 697
 QY 301 GTTCAGATCAAGGACCAAGGACATATGCTGTTTCAATCTATTAAAGGCCCAAGGA 360
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

DB 696 GTTCAGATCAAGGACCAAGGACCAATATACCTGTTTCATTCATTAATAAGGCCCAAGGA 637
 QY 361 CTAGTCCCATGACACCAATAGATGTTTGACCTTTCATGCTGTTGCTTCACTTCACTCACT 420
 DB 636 CTAGTCCCATGACACCAATAGATGTTTGACCTTTCATGCTGTTGCTTCACTTCACTCACT 577
 QY 421 GAAATTAACAGTAACTTCTAATAGAACAGAAATTTGCGCATATTAATTTGACCTGCTCA 480
 DB 576 GAAATTAACAGTAACTTCTAATAGAACAGAAATTTGCGCATATTAATTTGACCTGCTCA 517
 QY 481 TCTATACAGGTTTCCAGAACCTAAGGAGATATTTTACGTAAGCACTGGAATTTCA 540
 DB 516 TCTATACAGGTTTCCAGAACCTAAGGAGATATTTTACGTAAGCACTGGAATTTCA 457
 QY 541 ACTACTAAGTATGATCTGTCATGAGAACAAATCTCAAAATATGTCAGACAGTATCAAC 600
 DB 456 ACTACTAAGTATGATCTGTCATGAGAACAAATCTCAAAATATGTCAGACAGTATCAAC 397
 QY 601 GTTTCATACAGCTGCTGCTTTTCCAGTCCGTAAGGACACAGATGAGCGCTTTGTGCC 660
 DB 396 GTTTCATACAGCTGCTGCTTTTCCAGTCCGTAAGGACACAGATGAGCGCTTTGTGCC 337
 QY 661 CTGAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGATGACAACT 720
 DB 336 CTGAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGATGACAACT 277
 QY 721 AAGGATTAAGACCTGGAACCAAGGCCACTTCTGATGATTCGGCTGACTTGTATGTTT 780
 DB 276 AAGGATTAAGACCTGGAACCAAGGCCACTTCTGATGATTCGGCTGACTTGTATGTTT 217
 QY 781 GTTGTGTTTGTGAGATGCTGCTTTTAAACACTAAGAAAGAAAGAGACGCT 840
 DB 216 GTTGTGTTTGTGAGATGCTGCTTTTAAACACTAAGAAAGAAAGAGACGCT 157
 QY 841 GGCCTCTCATGATGTGAACCATCAAAAGSAGAGAAAGACCAACGACCAAC 900
 DB 156 GGCCTCTCATGATGTGAACCATCAAAAGSAGAGAAAGACCAACGACCAAC 97
 QY 901 GAAAGATACCATCCACGCTGAGAGATCTGATGAGCCCAAGTGTATTAATTTTG 960
 DB 96 GAAAGATACCATCCACGCTGAGAGATCTGATGAGCCCAAGTGTATTAATTTTG 37
 QY 961 AAGACGCTTAGGCGACAAAGTACTACATTTT 996
 DB 36 AAGACGCTTAGGCGACAAAGTACTACATTTT 1

RESULT 3
 ID AAZ27929
 ID AAZ27929 standard; DNA: 2830 BP.
 XX
 AC AAZ27929:
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 protein encoding DNA.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN W09947558-A2.
 PD 23-SEP-1999.
 XX
 PE 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.

XX
PI Sim G, Yang S, Sellins KS:
XX
DR WPI, 1999-571822/48.
XX P-PSDB: AAY41079.
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1: Page 116-119; 148pp: English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SO Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other:

Query Match 100.0%; Score 996; DB 20; Length 2830;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 ATGGGCAATTTGTGTGACACATATGAGCTAGTCACTCTCTGTGATGGCCCTCTG 60
179 ATGGGCAATTTGTGTGACACATATGAGCTAGTCACTCTCTGTGATGGCCCTCTG 238
61 CTCTGTGTGTCTCTCTGATGAGAGTCAAGCATATTTCAACAAGCTGGAGATGCCA 120
239 CTCTGTGTGTCTCTCTGATGAGAGTCAAGCATATTTCAACAAGCTGGAGATGCCA 298
121 TGGCATTTTCAACACCTCTCAAAACATTAAGCTGGATGAGTGTGATTTTGGCAGGAC 180
299 TGGCATTTTCAACACCTCTCAAAACATTAAGCTGGATGAGTGTGATTTTGGCAGGAC 358
181 CAGATTAAGCTGTGTGTGATGAGATATTCAGAGGCAAGAACCTCTCAAAATGTTTCA 240
359 CAGATTAAGCTGTGTGTGATGAGATATTCAGAGGCAAGAACCTCTCAAAATGTTTCA 418
241 CTCAAAATTAAGGCGCTTACAGCTTTGACAGAGACACTGGACCTGAGCTCCCAAT 300
419 CTCAAAATTAAGGCGCTTACAGCTTTGACAGAGACACTGGACCTGAGCTCCCAAT 478
301 GTTCAGATCAAGGACAGGACACATATCACTGTTTCAATTAATAAGGCGCCCAAGGA 360
479 GTTCAGATCAAGGACAGGACACATATCACTGTTTCAATTAATAAGGCGCCCAAGGA 538
361 CTAGTTCCTCATGACCAAAATGAGTCTGACCTATCACTGCTTCAATCACTCAACCT 420
539 CTAGTTCCTCATGACCAAAATGAGTCTGACCTATCACTGCTTCAATCACTCAACCT 598
421 GAATTAACAGTAATCTTAATAGACAGAAATTTGGCTCAATTAATTAAGTGGCTGCTA 480
599 GAATTAACAGTAATCTTAATAGACAGAAATTTGGCTCAATTAATTAAGTGGCTGCTA 658
481 TCTATACAGGTTTACCAGAACCTAAGAGATGATTTTACGTAACACTGGAATTTCA 540
659 TCTATACAGGTTTACCAGAACCTAAGAGATGATTTTACGTAACACTGGAATTTCA 718
541 ACTAATAGTATGATCTGTCATGAGAGAAATCTCAAAATTAATGAGACAGATGTAAC 600
719 ACTAATAGTATGATCTGTCATGAGAGAAATCTCAAAATTAATGAGACAGATGTAAC 778
601 GTTCTATACAGCTGCTTTTTCAGTCCCTGAGACACACAAATGAGACCTTTTGGCC 660
779 GTTCTATACAGCTGCTTTTTCAGTCCCTGAGACACACAAATGAGACCTTTTGGCC 838
661 AAGTGGAGACACTGAGATGCTGCTCCCTACCTTCAATTAATAGTGAACAACCT 720

DB 839 CTGAAGTGAAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGTGCACAACCT 898
OY 721 AAGCATTAAGACCCCTGACAGAGCCACTTCTCGATATGGGCTGATCTGTAATGTT 780
DB 899 AAGCATTAAGACCCCTGACAGAGCCACTTCTCGATATGGGCTGATCTGTAATGTT 958
OY 781 GTTGTCTTTTGTGCGATGCTGCTTTTAAACACTAAGGAAAGAGAAAGACAGCT 840
DB 959 GTTGTCTTTTGTGCGATGCTGCTTTTAAACACTAAGGAAAGAGAAAGACAGCT 1018
OY 841 GGCCCTCTCATGATGATGTAACCATCAAAAGGAGAGAAAGAGAGCAACACCAAC 900
DB 1019 GGCCCTCTCATGATGTAACCATCAAAAGGAGAGAAAGAGAGCAACACCAAC 1078
OY 901 GAAGAGTACCATACCTACCTAGATCTGATGAGCCAGTGTATTAACATTTTG 960
DB 1079 GAAGAGTACCATACCTACCTAGATCTGATGAGCCAGTGTATTAACATTTTG 1138
OY 961 AAGACAGCCTCAGGCGGACAAAGTACTACACATTTT 996
DB 1139 AAGACAGCCTCAGGCGGACAAAGTACTACACATTTT 1174

RESULT 4
AA27930/C
ID AA27930 standard; DNA: 2830 BP.
XX
XX AA27930;
XX
XX 20-DEC-1999 (first entry)
XX
DE Feline B7-2 gene complementary DNA sequence.
XX
XX B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Felis catus.
XX
XX WO9447558-A2.
XX
XX PD 23-SEP-1999.
XX
XX PF 19-MAR-1999; 99WO-US06187.
XX
XX PR 19-MAR-1998; 98US-0078765.
XX
XX PR 17-APR-1998; 98US-0062597.
XX
XX PA (HESK-) HESKA CORP.
XX
XX PI Sim G, Yang S, Sellins KS;
XX
XX WPI, 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1: Page 121-123; 148pp: English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SO Sequence 2830 BP; 797 A; 586 C; 570 G; 877 T; 0 other:

Query Match 100.0%; Score 996; DB 20; Length 2830;
Best Local Similarity 100.0%; Pred. No. 0;

Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 ATGGGCAATTTGGACAGCACTATGGAGCTGAGTCACTCTCTCTGTGATGGCCCTCTG 60
   |||||
DB 2652 ATGGGCAATTTGGACAGCACTATGGAGCTGAGTCACTCTCTCTGTGATGGCCCTCTG 2593
QY 61 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGACTGCCA 120
   |||||
DB 2592 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGACTGCCA 2533
QY 121 TGGCATTTTACAACACTCTCAAAAACATACCTGGATGAGCTGGTATTTGGCGAGAC 180
   |||||
DB 2532 TGGCATTTTACAACACTCTCAAAAACATACCTGGATGAGCTGGTATTTGGCGAGAC 2473
QY 181 CAGGATTAAGCTGGTCTGTATGATATTCAGAGGCAAGAGAACCCCTGAATATGTTCA 240
   |||||
DB 2472 CAGGATTAAGCTGGTCTGTATGATATTCAGAGGCAAGAGAACCCCTGAATATGTTCA 2413
QY 241 CTCGAATTAAGGGCCGTACAAAGCTTTGACAAGACACTGGAGCCCTGAGACTCCACAAT 300
   |||||
DB 2412 CTCGAATTAAGGGCCGTACAAAGCTTTGACAAGACACTGGAGCCCTGAGACTCCACAAT 2353
QY 301 GTTCAGATCAAGGACAGGCGCACATATCATCTGTTTCATTATTAAGGCGCCAAAGCA 360
   |||||
DB 2352 GTTCAGATCAAGGACAGGCGCACATATCATCTGTTTCATTATTAAGGCGCCAAAGCA 2293
QY 361 CTAGTCCCATGACCAAAATGAGTTCTGACCTATCATGCTGTTGTAACCTGAGTCAACT 420
   |||||
DB 2292 CTAGTCCCATGACCAAAATGAGTTCTGACCTATCATGCTGTTGTAACCTGAGTCAACT 2233
QY 421 GAAATTAACAGTAATCTTCTATAGAACAGAAATTTGCGATCATTAATTTGACCTGCTCA 480
   |||||
DB 2232 GAAATTAACAGTAATCTTCTATAGAACAGAAATTTGCGATCATTAATTTGACCTGCTCA 2173
QY 481 TCTATCAAGGTTACCCCAACACTAAGAGATGATTTTCAGCTAAACACTGAGATTTCA 540
   |||||
DB 2172 TCTATCAAGGTTACCCCAACACTAAGAGATGATTTTCAGCTAAACACTGAGATTTCA 2113
QY 541 ACTACTAAGTATGATCTGTGATGAAGAATCTCAAAATATGTGACACACTGTATCAAC 600
   |||||
DB 2112 ACTACTAAGTATGATCTGTGATGAAGAATCTCAAAATATGTGACACACTGTATCAAC 2053
QY 601 GTTTCATCAGCTTGCTTTTTCAGTCCCTGGAAGCACACAAATGTGAGCCCTCTTTTGTGCC 660
   |||||
DB 2052 GTTTCATCAGCTTGCTTTTTCAGTCCCTGGAAGCACACAAATGTGAGCCCTCTTTTGTGCC 1993
QY 661 CTGAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATATGACACACT 720
   |||||
DB 1992 CTGAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATATGACACACT 1933
QY 721 AAGGATAAAGACCTGTAACAGGCACTTCTGATTTGGCGCTGTACTTGAATGTTT 780
   |||||
DB 1932 AAGGATAAAGACCTGTAACAGGCACTTCTGATTTGGCGCTGTACTTGAATGTTT 1873
QY 781 GTTGTGTTTGTGGATGCTGCTTTAAACACTAAGAAAAAGAAAGAAAGACAGCCT 840
   |||||
DB 1872 GTTGTGTTTGTGGATGCTGCTTTAAACACTAAGAAAAAGAAAGAAAGACAGCCT 1813
QY 841 GGGCCCTCTCATGATGTGAACATCAAAAGGAGAGAAAGAGCAAAAGACAGACAC 900
   |||||
DB 1812 GGGCCCTCTCATGATGTGAACATCAAAAGGAGAGAAAGAGCAAAAGACAGACAC 1753
QY 901 GAAGAGTACCATACAGCTACTGAGAGATCTGATGAAGCCAGTATTAACATTTTG 960
   |||||
DB 1752 GAAGAGTACCATACAGCTACTGAGAGATCTGATGAAGCCAGTATTAACATTTTG 1693
QY 961 AAGACAGCTCAGGCGAACAAGTACTACATTTT 996
   |||||
DB 1692 AAGACAGCTCAGGCGAACAAGTACTACATTTT 1657

```

RESULT 5
AA234838

```

ID AA234838 standard; cDNA: 1080 BP.
XX AC
XX AA234838;
XX 28-FEB-2000 (first entry)
DE Feline CD86 (B7-2) cDNA.
DE CD86; B7-2; feline; cat; recombinant virus; vaccine;
KW immunomodulator; tumour; cancer; therapy; ss.
XX Fells domesticus.
OS
FH Key
FT Location/Qualifiers
ET CDS 63..1052
   /**tag= a
   WO9957295-A1.
   11-NOV-1999.
   30-APR-1999; 99WO-US09504.
   01-MAY-1998; 98US-0071711.
   (SCHE ) SCHERING-PLOUGH LTD.
   (SCHE ) SCHERING-PLOUGH VETERINARY CORP.
   Winslow BJ, Cochran MD;
   WPI: 2000-062155/05.
   DR P-PSDB: AAY32285.
   PT Novel recombinant virus useful as immunomodulators, particularly in
   PT vaccines
   PS
   XX
   XX Disclosure: Fig 3A; 230pp; English.
   XX
   CC This is the nucleotide sequence of cDNA coding for feline CD86
   CC (B7-2). The cDNA was isolated from feline peripheral blood
   CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
   CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
   CC regulates T cell proliferation and cytokine release. The invention
   CC relates to a recombinant virus that contains at least one foreign
   CC nucleic acid, inserted into a nonessential genomic region, that
   CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
   CC immunogenic fragments, and is expressed when the recombinant virus
   CC is introduced into a suitable host. The invention also provides:
   CC a recombinant virus further comprising a foreign nucleic acid
   CC encoding an immunogen derived from a feline pathogen; recombinant
   CC viruses capable of enhancing an immune response to protect against
   CC disease; recombinant viruses expressing antisense sequences,
   CC capable of suppressing an immune response in a feline, e.g. for
   CC treatment of autoimmune disease or transplant rejection; and
   CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used
   CC to reduce or eliminate a tumour in cats.
   SO
   Sequence 1080 BP: 333 A; 233 C; 235 G; 279 T; 0 other;
   Query Match 95.2%; Score 948; DB 21; Length 1080;
   Best Local Similarity 100.0%; Pred. No. 0;
   Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
   QY 1 ATGGGCAATTTGGACAGCACTATGGAGCTGAGTCACTCTCTCTGTGATGGCCCTCTG 60
   DB 63 ATGGGCAATTTGGACAGCACTATGGAGCTGAGTCACTCTCTCTGTGATGGCCCTCTG 122
   QY 61 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGACTGCCA 120
   DB 123 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGACTGCCA 182
   QY 121 TGGCATTTTACAACACTCTCAAAAACATACCTGGATGAGCTGGTATTTGGCGAGAC 180

```



```

OY 541 ACTACTAGTATGATCTGTCATGTAAGAATCTCAAAATATATGTACAGAACTGTACAC 600
DB 603 ACTACTAGTATGATCTGTCATGTAAGAATCTCAAAATATATGTACAGAACTGTACAC 662
OY 601 GTTCTATCAGCTTCCCTTTTTCAGTCCCTGAGACACCAATGTAGCGCTTTTGTGCC 660
DB 663 GTTCTATCAGCTTCCCTTTTTCAGTCCCTGAGACACCAATGTAGCGCTTTTGTGCC 722
OY 661 CTGAAGTGAAGACACCTGAGATGCTGCTCCCTACCTTTCAATATGATGACCAACCT 720
DB 723 CTGAAGTGAAGACACCTGAGATGCTGCTCCCTACCTTTCAATATGATGACCAACCT 782
OY 721 AAGATTAAGACCTGTAACCAAGGCCACTTCTGTGATTTGGCGCTGTACTTGTATGTTT 780
DB 783 AAGATTAAGACCTGTAACCAAGGCCACTTCTGTGATTTGGCGCTGTACTTGTATGTTT 842
OY 781 GTTGTGTTTGTGGATGCTGCTCTTTTAAACACTAAGGAAAGGAAAGACAGAGCT 840
DB 843 GTTGTGTTTGTGGATGCTGCTCTTTTAAACACTAAGGAAAGGAAAGACAGAGCT 902
OY 841 GGCCCTCTCATGATGTGAACCATCAAAAGGAGAGAGAAAGACCAAGACCAAC 900
DB 903 GGCCCTCTCATGATGTGAACCATCAAAAGGAGAGAGAAAGACCAAGACCAAC 962
OY 901 GAAAGATGACATACACGCTACCTGAGAGATCTGATGAAGCCAGTGT 948
DB 963 GAAAGATGACATACACGCTACCTGAGAGATCTGATGAAGCCAGTGT 1010

```

```

RESULT 8
ABK48230
ID ABR48230 standard; cDNA: 1080 BP.
AC ABR48230;
DE 02-JUL-2002 (first entry)
XX cDNA encoding feline CD86 protein.
XX
XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
XX feline infectious peritonitis; gene; ss: CD80 ligand; CD86 ligand;
XX CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
XX organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
XX feline leukaemia; feline calicivirus; rotavirus; reovirus type 3;
XX coronavirus; herpes; borra disease.
XX
XX Felis sp.
XX
XX Key Location/Qualifiers
XX CDS 63..1052
XX /*tag= a
XX /product= "CD86 protein"
XX
XX US2002028208-A1.
XX
XX 07-MAR-2002.
XX
XX 30-APR-1999; 99US-0303510.
XX
XX 01-MAY-1998; 98US-083869P.
XX
XX (COLL.) COLLISON E W.
XX (HASH.) HASH S M.
XX (CHOI.) CHOI I.
XX
XX COLLISON EM, Hash SM, Choi I;
XX
XX WPI: 2002-315045/35.
XX P-PSDB: AAU8121.
XX
XX Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
XX receptor or CTLA-4 receptor as vaccine for inducing immune response in
XX

```

```

PT feline suffering from autoimmune disease or tissue or organ transplant
PT
PT
XX
XX Claim 6; Fig 3A; 73pp; English.
PS
XX
XX This invention relates to the DNA and protein sequences encoding a
XX soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
XX CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
XX invention also relates to a vaccine comprising an effective amount of
XX these receptor proteins. A vaccine is useful for inducing immunity or
XX enhancing an immune response in a cat. The protein sequences of the
XX invention are useful for suppressing an immune response in a feline
XX suffering from an autoimmune disease or the recipient of a tissue or
XX organ transplant. A vector containing the DNA sequence of the
XX invention is useful for redirecting an immune response in a feline to an
XX immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
XX flea, feline immunodeficiency virus, feline leukaemia (FeLV), feline
XX infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
XX reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,
XX sarcoma virus, borra disease virus or a parasite. The protein sequences
XX may be further utilised to promote growth in homologous or heterologous
XX feline species. Enhancement of immunity through the interaction of
XX soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
XX immune response through the interaction of feline CD80 or CD86 with
XX CTLA-4 takes advantage of the natural process of regulation rather than
XX adding foreign substances that could have multiple, even detrimental
XX effects on overall or long term health. The present sequence represents
XX a cDNA encoding the feline CD86 protein of the invention.
XX
XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
XX
XX Query Match 95.2%; Score 948; DB 24; Length 1080;
XX Best Local Similarity 100.0%; Pred. No. 0;
XX Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
OY 1 ATGGCATTTTGTGACAGACATATGGAGTGTACACTCTCTGTGATGGCCCTCTCTG 60
DB 63 ATGGCATTTTGTGACAGACATATGGAGTGTACACTCTCTGTGATGGCCCTCTCTG 122
OY 61 CTCTGTGGTGTCTTCATGAAAGATCAAGCATTTTCAACAAAGGAGGAGGAGGCA 120
DB 123 CTCTGTGGTGTCTTCATGAAAGATCAAGCATTTTCAACAAAGGAGGAGGAGGCA 182
OY 121 TGCCATTTTACAAACTCTAAACATACCTGTGATGAGCTGTATTTTGGCAGGAC 180
DB 183 TGCCATTTTACAAACTCTAAACATACCTGTGATGAGCTGTATTTTGGCAGGAC 242
OY 181 CAGGATTAAGCTGTCTGTATGATGATTTCAAGAGCAAGCAACCTCAAAATGTTCA 240
DB 243 CAGGATTAAGCTGTCTGTATGATGATTTCAAGAGCAAGCAACCTCAAAATGTTCA 302
OY 241 CTCGAATATTAAGGCGGTCAAGCTTTGACAGAGCAACCTGAGCCCTGAGATCCACAT 300
DB 303 CTCGAATATTAAGGCGGTCAAGCTTTGACAGAGCAACCTGAGCCCTGAGATCCACAT 362
OY 301 GTTCAGATCAAGGAGCAAGGCAATATACCTGTTTCATTATTAAGAGGCCCAAGGA 360
DB 363 GTTCAGATCAAGGAGCAAGGCAATATACCTGTTTCATTATTAAGAGGCCCAAGGA 422
OY 361 CTAGTTCCTATGACCAATATGAGTTGTGACCTATATAGTCTTGTAATCTTCACTACCT 420
DB 423 CTAGTTCCTATGACCAATATGAGTTGTGACCTATATAGTCTTGTAATCTTCACTACCT 482
OY 421 GAAATTAAGCTAGCTCTAATAGAACAGAAATTTCTGCAATCAATTAATTTGACCTGCTCA 480
DB 483 GAAATTAAGCTAGCTCTAATAGAACAGAAATTTCTGCAATCAATTAATTTGACCTGCTCA 542
OY 481 TCTATCAAGGTTACCAAGCACTAAGAGATGATTTTCACTAAACACTGAGAAATCA 540
DB 543 TCTATCAAGGTTACCAAGCACTAAGAGATGATTTTCACTAAACACTGAGAAATCA 602
OY 541 ACTACTAGTATGATCTGTCATGTAAGAATCTCAAAATATATGTACAGAACTGTACAC 600

```


DR WPI: 1999-571822/48.
 XX
 XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 XX Claim 1: Page 127; 148bp; English.
 PS
 XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 509 BP; 124 A; 106 C; 109 G; 170 T; 0 other;
 Query Match 51.1%; Score 509; DB 20; Length 509;
 Best Local Similarity 100.0%; Pred. No. 2.4e-242;
 Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 484 ATACAGGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACACT 543
 DB 509 ATACAGGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACACT 450
 QY 544 ACTAGTATGATATCTGTCATGAGAAATCTCAAAATATGTGACAGAACTTACACGTT 603
 DB 449 ACTAGTATGATATCTGTCATGAGAAATCTCAAAATATGTGACAGAACTTACACGTT 390
 QY 604 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTAGCGCTTTTGTGCCCTG 663
 DB 389 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTAGCGCTTTTGTGCCCTG 330
 QY 664 AACCTGAGACACTGAGATGCTGCTCCCTACCTTCATATAGTACACAACTTAG 723
 DB 329 AACCTGAGACACTGAGATGCTGCTCCCTACCTTCATATAGTACACAACTTAG 270
 QY 724 GATAAGACCCCTGAAACAGGCGCACTCTCTGATTCGGCGTACTGTATGTTTGT 783
 DB 269 GATAAGACCCCTGAAACAGGCGCACTCTCTGATTCGGCGTACTGTATGTTTGT 210
 QY 784 GTTTTGTGGAGTGTGCTCTTAAACACTAGGAAAGAGAGACGACGCTGGC 843
 DB 209 GTTTTGTGGAGTGTGCTCTTAAACACTAGGAAAGAGAGACGACGCTGGC 150
 QY 844 CCCTCTCATGATGTGAAACCTCAAAAGGAGAGAAAGACAGCAACCAACGAA 903
 DB 149 CCCTCTCATGATGTGAAACCTCAAAAGGAGAGAGAAAGACAGCAACCAACGAA 90
 QY 904 AGAGTACATACACAGTACCTGAGAGATCTGATGAAGCCAGAGTATTAACTTTTGAAG 963
 DB 89 AGAGTACATACACAGTACCTGAGAGATCTGATGAAGCCAGAGTATTAACTTTTGAAG 30
 QY 964 ACAGCCTCAGGCGACAAAGTACTACACA 992
 DB 29 ACAGCCTCAGGCGACAAAGTACTACACA 1
 RESULT 11
 AA27935 ID AA27935 standard; DNA: 359 BP.
 XX
 XX AA27935;
 AC
 XX 20-DEC-1999 (first entry)
 DT
 XX
 XX Feline B7-2 protein (smaller fragment) encoding DNA.
 DE
 XX B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX
 OS Fells catus.
 XX
 XX W09947558-A2.
 PN
 XX 23-SEP-1999.
 PD
 XX
 XX 19-MAR-1999; 99W0-US06187.
 PF
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI: 1999-571822/48.
 DR P-PSDB: AA141081.
 XX
 XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1: Page 127-128; 148bp; English.
 XX
 XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;
 Query Match 22.8%; Score 227; DB 20; Length 359;
 Best Local Similarity 100.0%; Pred. No. 2.3e-102;
 Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 484 ATACAGGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACACT 543
 DB 1 ATACAGGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACACT 60
 QY 544 ACTAGTATGATATCTGTCATGAGAAATCTCAAAATATGTGACAGAACTTACACGTT 603
 DB 61 ACTAGTATGATATCTGTCATGAGAAATCTCAAAATATGTGACAGAACTTACACGTT 120
 QY 604 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTAGCGCTTTTGTGCCCTG 663
 DB 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTAGCGCTTTTGTGCCCTG 180
 QY 664 AACCTGAGACACTGAGATGCTGCTCCCTACCTTCATATAGT 710
 DB 181 AACCTGAGACACTGAGATGCTGCTCCCTACCTTCATATAGT 227
 RESULT 12
 AA27936/c ID AA27936 standard; DNA: 359 BP.
 XX
 XX AA27936;
 AC
 XX 20-DEC-1999 (first entry)
 DT
 XX
 XX Feline B7-2 gene (smaller fragment) complementary DNA sequence.
 DE
 XX B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Fells catus.
 XX

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX
PS Claim 1; Page 115; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;
XX
Query Match 6.1%; Score 61; DB 20; Length 840;
Best Local Similarity 100.0%; Pred. No. 5.6e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 74 CTTCGATGAGAGTCACGATATTTCACAGACGAGAGCTGCCATGCAATTTTACAA 133
DB 770 CTTCGATGAGAGTCACGATATTTCACAGACGAGAGCTGCCATGCAATTTTACAA 711
OY 134 A 134
DB 710 A 710
XX
RESULT 15
AA227915
ID AA227915 standard; DNA; 987 BP.
XX
AC AA227915;
XX
DT 20-DEC-1999 (first entry)
XX
DE Canine B7-2 protein coding sequence.
XX
DE B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX
OS Canis familiaris.
XX
OS WO947558-A2.
XX
PN 23-SEP-1999.
XX
PD 19-MAR-1999; 99WO-US06187.
XX
PE 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G., Yang S., Sellins KS;
PI
XX
DR WPI: 1999-571822/48.
DR P-PSDB; AAY41076.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
PT
XX
PS Claim 1; Page 102-103; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
XX
SQ Sequence 987 BP; 315 A; 215 C; 204 G; 253 T; 0 other;
XX
Query Match 6.1%; Score 61; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 5.5e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 74 CTTCGATGAGAGTCACGATATTTCACAGACGAGAGCTGCCATGCAATTTTACAA 133
DB 71 CTTCGATGAGAGTCACGATATTTCACAGACGAGAGCTGCCATGCAATTTTACAA 130
OY 134 A 134
DB 131 A 131
XX
RESULT 16
AA227916/c
ID AA227916 standard; DNA; 987 BP.
XX
AC AA227916;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of canine B7-2 coding sequence.
XX
DE B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX
OS Canis familiaris.
XX
OS WO947558-A2.
XX
PN 23-SEP-1999.
XX
PD 19-MAR-1999; 99WO-US06187.
XX
PE 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G., Yang S., Sellins KS;
PI
XX
DR WPI: 1999-571822/48.
DR
XX
PE New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
PT
XX
PS Claim 1; Page 103-104; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;
XX
Query Match 6.1%; Score 61; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 5.5e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 74 CTTCGATGAGAGTCACGATATTTCACAGACGAGAGCTGCCATGCAATTTTACAA 133
DB 71 CTTCGATGAGAGTCACGATATTTCACAGACGAGAGCTGCCATGCAATTTTACAA 133

DB 917 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTCACAA 858
 OY 134 A 134
 DB 857 A 857

RESULT 17
 AA227921
 ID AA227921 standard; DNA: 1795 BP.

AC AA227921;

DT 20-DEC-1999 (first entry)

DE Canine B7-2S protein encoding DNA.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; canine;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PEDB; AAY41078.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

treating, e.g. autoimmune and atopic diseases

XX Claim 1; Page 109-111; 148pp; English.

PS The invention provides B7 and CTLA4 (T cell costimulatory proteins)

CC encoding nucleic acid molecules from dogs and cats. The proteins can be

CC expressed by standard recombinant methodology. The nucleic acid molecules

CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor

CC development, graft rejection, inflammation, arthritic and atopic diseases

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,

CC cats, cattle, sheep or pets. The products can also be used for detection,

XX diagnosis and drug screening.

XX Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;

DB 134 A 134

DB 137 A 137

RESULT 18
 AA227922/c
 ID AA227922 standard; DNA: 1795 BP.

AC AA227922;
 XX 20-DEC-1999 (first entry)
 DT Canine B7-2S gene complementary DNA sequence.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; canine;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

treating, e.g. autoimmune and atopic diseases

XX Claim 1; Page 112-114; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other;

PS Query Match 6.1%; Score 61; DB 20; Length 1795;

CC Best Local Similarity 100.0%; Pred. No. 5.5e-20;

CC Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 74 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTCACAA 133

DB 1719 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTCACAA 1660

OY 134 A 134

DB 1659 A 1659

RESULT 19
 AA227913
 ID AA227913 standard; DNA: 1897 BP.

AC AA227913;

DT 20-DEC-1999 (first entry)

DE Canine B7-2 protein encoding DNA.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; canine;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN W09947558-A2.
 XX 23-SEP-1999.
 PD 19-MAR-1999; 99WO-US06187.
 XX PF 19-MAR-1998; 98US-0078765.
 XX PR 17-APR-1998; 98US-0062597.
 XX PA (HESKA CORP.
 XX PI Sim G, Yang S, Sellins KS;
 XX WPI: 1999-571822/48.
 DR P-PSDB: AA141076.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1: Page 97-99; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 1897 BP; 585 A; 400 C; 383 G; 529 T; 0 other;
 XX
 Query Match 6.1%; Score 61; DB 20; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 5.5e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 74 CTTCCATGAGAGCTCAACATATTTCACAGACTGAGAACTGCCATTTTACAA 133
 DB 76 CTTCCATGAGAGCTCAACATATTTCACAGACTGAGAACTGCCATTTTACAA 135
 QY 134 A 134
 DB 136 A 136
 Db 136 A 136
 RESULT 20
 AA27914/c
 ID AA27914 standard; DNA: 1897 BP.
 XX
 AC AA27914;
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Canine B7-2 gene complementary DNA sequence.
 XX
 KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Canis familiaris.
 XX
 PN W09947558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESKA CORP.
 XX
 PI

PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI: 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1: Page 101-102; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 1897 BP; 529 A; 383 C; 400 G; 585 T; 0 other;
 XX
 Query Match 6.1%; Score 61; DB 20; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 5.5e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 74 CTTCCATGAGAGCTCAACATATTTCACAGACTGAGAACTGCCATTTTACAA 133
 DB 1822 CTTCCATGAGAGCTCAACATATTTCACAGACTGAGAACTGCCATTTTACAA 1763
 QY 134 A 134
 DB 1762 A 1762
 Db 1762 A 1762
 RESULT 21
 AAT62939
 ID AAT62939 standard; DNA: 764 BP.
 XX
 AC AAT62939;
 XX
 DT 16-JUN-1997 (first entry)
 XX
 DE Chimeric human/porcine CD86 DNA construct.
 XX
 KW Xenotransplantation; graft rejection; cell interaction; pig;
 KW CD86; monoclonal antibody; chimeric antibody; diagnosis; ss.
 XX
 OS Chimeric Homo sapiens;
 OS Chimeric Sus scrofa.
 XX
 FH Key Location/Qualifiers
 FT CDS 7..749
 FT /*tag= a
 FT /*note= "the porcine CD86 sequence spans
 FT sig_peptide 7..81
 FT mat_peptide 82..756
 FT /*tag= c
 XX
 PN W09711971-A1.
 XX
 PD 03-APR-1997.
 XX
 PF 27-SEP-1996; 96WO-US15575.
 XX
 PR 26-SEP-1996; 96US-0004489.
 PR 28-SEP-1995; 95US-0004489.
 XX
 PA (ALEX-) ALEXION PHARM INC.
 XX
 PI Evans MJ, Matlis LA, Mueller EE, Mueller JP, Rollins S;
 Rother RP;

XX This DNA sequence encodes a polypeptide (see AAW86005) comprising
 CC the extracellular domain (amino acids 1-215) of human co-stimulatory
 CC molecule B7-2 joined to a C-terminal flexible peptide linker. This
 CC is part of the coding sequence of B7-2.574.1 co-stimulatory domain,
 CC a DNA sequence encoding a fusion protein comprising the B7-2
 CC extracellular domain joined via the linker to an scFv (see AAW86002)
 CC derived from murine 574 monoclonal antibody. The cDNA can be
 CC inserted into vector pCI to allow expression of the fusion protein
 CC in mammalian cells. The trophoblast cell surface antigen defined
 CC by 574 is expressed at high levels on the cells of a wide variety
 CC of human tumours. The invention relates to a vector comprising a
 CC nucleotide sequence coding for a tumour interacting protein (TIP)
 CC and optionally a nucleotide sequence of interest (NOI) which
 CC encodes a protein of interest (POI), the vector being capable of
 CC delivering the NOI and/or POI to the tumour recognised by the TIP.
 CC Delivery can be in vivo or ex vivo. The vector is used to treat
 CC cancer, and may also be used as a gene delivery system for
 CC introducing at least 1 gene encoding a TIP (preferably a tumour
 CC binding protein) into a haematopoietic cell lineage. B7-2 is
 CC expected to bind specifically to CD28 and CTLA-4 present on human
 CC T-cells.

XX Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 20; Length 738;

Best Local Similarity 100.0%; Pred. No. 4.4e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 394 TCAGTGGCTGCTAACTTCACTCAACCTGAATA 426

DB 373 TCACTGCTGCTAACTTCACTCAACCTGAATA 405

RESULT 24

AAFB9731 AAFB9731 standard; DNA; 738 BP.

XX AAFB9731;

DT 23-JUL-2001 (first entry)

DE Nucleotide sequence of a B7-2.574.1 fusion protein.

XX Single chain antibody; scFv; inflammatory disease; arthritis; cancer;
 KW hyperensitivity; autoimmune disease; central nervous system disorder;
 KW Parkinson's disease; periodontal disease; cardiopulmonary disease;
 KW cardiovascular disease; gastrointestinal disorder; infection; diabetes;
 KW Helicobacter-related disease; immune disorder; ss.

XX Synthetic.

OS Mus sp.

OS Homo sapiens.

XX Key Location/Qualifiers

FT CDS 1..738

FT /*tag= a

XX MO200136486-A2.

XX 25-MAY-2001.

XX 13-NOV-2000; 2000WO-GB04317.

XX 18-NOV-1999; 99WO-GB03859.

XX 15-FEB-2000; 2000GB-0003527.

XX 02-MAR-2000; 2000GB-0005071.

XX (OXFO-) OXFORD BIOMEDICA UK LTD.

XX Kingsman A, Kingsman SM, Babbington CR, Carroll MW, Ellard FM,
 PI Myers KA;

DR WPI; 2001-343805/36.

XX Use of single chain antibody capable of recognizing a disease
 PT associated molecule for manufacturing a medicament for preventing
 PT and/or treating a disease condition associated with disease associated
 PT molecule
 XX Example 3; Fig 4; 118pp; English.

XX The specification describes the use of a single chain antibody (scFv),
 CC which is capable of recognizing a disease associated molecule in the
 CC manufacture of a medicament for the prevention and treatment of a
 CC disease condition. The scFv antibody is useful in the manufacture of
 CC a medicament, for affecting a disease in vivo, for preparing a
 CC pharmaceutical composition, for in vivo imaging and/or for adjuvant
 CC treatment of a disease. The scFv antibody is also useful for
 CC treating inflammatory diseases including arthritis, hypersensitivity,
 CC autoimmune diseases, cancers, central nervous system disorders
 CC including Parkinson's disease, periodontal diseases, cardiopulmonary
 CC diseases, cardiovascular diseases, gastrointestinal disorders,
 CC infections, diabetes, Helicobacter-related diseases, and other immune
 CC disorders. The present sequence encodes a B7-2.574.1 fusion protein.
 CC This comprises the N-terminus of the 574 scFv is fused after amino acid
 CC 215 of human B7-2.

XX Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 22; Length 738;

Best Local Similarity 100.0%; Pred. No. 4.4e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 394 TCAGTGGCTGCTAACTTCACTCAACCTGAATA 426

DB 373 TCACTGCTGCTAACTTCACTCAACCTGAATA 405

RESULT 25

AAV03230 AAV03230 standard; cDNA; 831 BP.

XX AAV03230;

DT 22-JUN-1998 (first entry)

DE DNA encoding CD86 extracellular domain in CD86rcalphatp link.

XX Hexameric fusion protein; IgA; alpha-tp; tailpiece; antibody;

KW CD86; CD28; CTLA-4; vaccine; diagnosis; binding assay; screening;

KW human; ds.

XX Homo sapiens.

XX Key Location/Qualifiers

FT sig_peptide 52..126

FT /*tag= a

FT mat_peptide 127..831

FT /*tag= b

XX WO9747732-A2.

XX 18-DEC-1997.

XX 13-JUN-1997; 97WO-US12599.

XX 21-FEB-1997; 97US-0038915.

XX 14-JUN-1996; 96US-0019934.

XX 19-FEB-1997; 97US-0043948.

XX (SMK) SMITHKLINE BEECHAM CORP.

XX Chaikin MA, Lyn SDP, Sweet RW, Truneh A;

XX WPI; 1998-052299/05.

GenCore version 5.1.4-P5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 131.145 Seconds

(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-28

Perfect score: 996

Sequence: 1 atggcatttgacagcac.....acaaagatcacatttt 996

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : Published_Applications_MA:*

1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
2: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUB.seq:*
3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
6: /cgn2_6/ptodata/2/pubpna/PC1US_PUBCOMB.seq:*
7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	948	95.2	1080	10 US-09-303-510-5	Sequence 5, Appli
2	948	95.2	1080	10 US-09-303-040-5	Sequence 5, Appli
3	33	3.3	551	9 US-09-796-692-7817	Sequence 7817, Ap
4	33	3.3	598	9 US-09-796-692-7754	Sequence 7754, Ap
5	33	3.3	751	9 US-10-105-200A-34	Sequence 34, Appl
6	33	3.3	831	10 US-09-845-899A-4	Sequence 4, Appli
7	33	3.3	972	9 US-09-826-025-11	Sequence 11, Appli
8	33	3.3	1002	9 US-10-105-200A-33	Sequence 33, Appli
9	33	3.3	1056	10 US-09-756-983-17	Sequence 17, Appli
10	33	3.3	1112	9 US-09-441-411-25	Sequence 25, Appli
11	33	3.3	1120	8 US-08-592-711-3	Sequence 3, Appli
12	33	3.3	1120	9 US-09-962-969-22	Sequence 22, Appli
13	33	3.3	1120	10 US-09-837-867A-22	Sequence 22, Appli
14	33	3.3	1161	9 US-09-962-969-24	Sequence 24, Appli
15	33	3.3	1161	10 US-09-837-867A-24	Sequence 24, Appli
16	33	3.3	1424	9 US-09-954-531-366	Sequence 366, Appl
17	33	3.3	1424	9 US-09-441-411-21	Sequence 21, Appli
18	33	3.3	1424	10 US-09-962-969-556	Sequence 556, Appl
19	30	3.0	195	9 US-09-962-969-41	Sequence 41, Appli

20	30	3.0	195	10 US-09-837-867A-41	Sequence 41, Appli
21	28	2.8	28	10 US-09-303-510-32	Sequence 32, Appli
22	28	2.8	28	10 US-09-303-040-32	Sequence 32, Appli
23	28	2.8	1151	9 US-09-962-969-20	Sequence 20, Appli
24	28	2.8	1151	10 US-09-837-867A-20	Sequence 20, Appli
25	28	2.8	1183	9 US-09-441-411-23	Sequence 23, Appli
26	28	2.8	1261	9 US-09-962-969-12	Sequence 12, Appli
27	28	2.8	1261	10 US-09-837-867A-12	Sequence 12, Appli
28	25	2.5	25	10 US-09-303-510-34	Sequence 34, Appli
29	25	2.5	25	10 US-09-303-510-36	Sequence 36, Appli
30	25	2.5	25	10 US-09-303-510-38	Sequence 38, Appli
31	25	2.5	25	10 US-09-303-040-34	Sequence 34, Appli
32	25	2.5	25	10 US-09-303-040-36	Sequence 36, Appli
33	25	2.5	25	10 US-09-303-040-38	Sequence 38, Appli
34	24	2.4	54	10 US-09-147-142-23	Sequence 23, Appli
35	24	2.4	54	10 US-09-147-142-26	Sequence 26, Appli
36	21	2.1	21	10 US-09-303-510-27	Sequence 27, Appli
37	21	2.1	21	10 US-09-303-040-27	Sequence 27, Appli
38	21	2.1	505	10 US-09-733-607-4	Sequence 4, Appli
39	20	2.0	22	9 US-10-115-615-20	Sequence 20, Appli
40	20	2.0	639	10 US-09-878-574-4316	Sequence 4316, Ap
41	19	1.9	2577	10 US-09-529-063-71	Sequence 71, Appli
42	19	1.9	2880	10 US-09-764-898-81	Sequence 81, Appli
43	19	1.9	3013	10 US-09-764-853-260	Sequence 260, Appl
44	19	1.9	3088	10 US-09-529-063-72	Sequence 72, Appli
45	19	1.9	3336	9 US-10-004-551-27	Sequence 27, Appli
46	18	1.8	101	10 US-09-864-761-21442	Sequence 21442, A
47	18	1.8	208	10 US-09-864-761-17671	Sequence 17671, A
48	18	1.8	210	9 US-09-962-969-31	Sequence 31, Appli
49	18	1.8	210	10 US-09-837-867A-31	Sequence 31, Appli
50	18	1.8	412	10 US-09-729-674-43	Sequence 43, Appli
51	18	1.8	451	10 US-09-864-761-4702	Sequence 4702, Ap
52	18	1.8	461	10 US-09-864-761-891	Sequence 891, Appl
53	18	1.8	467	9 US-10-046-935-2030	Sequence 2030, Ap
54	18	1.8	467	9 US-09-878-178-2030	Sequence 2030, Ap
55	18	1.8	467	9 US-10-146-502-2030	Sequence 2030, Ap
56	18	1.8	481	10 US-09-974-300-6414	Sequence 6414, Ap
57	18	1.8	822	9 US-10-001-857-5	Sequence 5, Appli
58	18	1.8	822	10 US-09-770-445-722	Sequence 722, Appl
59	18	1.8	1039	10 US-09-880-192-25	Sequence 25, Appli
60	18	1.8	1491	10 US-09-892-325-3	Sequence 3, Appli
61	18	1.8	1494	10 US-09-938-842A-569	Sequence 569, Appl
62	18	1.8	1502	10 US-09-883-797-11	Sequence 11, Appli
63	18	1.8	1807	10 US-09-892-325-2	Sequence 2, Appli
64	18	1.8	2508	9 US-09-938-842A-2036	Sequence 2036, Ap
65	18	1.8	3722	10 US-09-892-325-1	Sequence 1, Appli
66	18	1.8	45839	12 US-10-025-187-3	Sequence 3, Appli
67	17	1.7	97	9 US-09-747-377-529	Sequence 329, Appl
68	17	1.7	153	10 US-09-878-574-7526	Sequence 7526, Ap
69	17	1.7	172	10 US-09-867-701-8290	Sequence 8290, Ap
70	17	1.7	184	10 US-09-864-761-17534	Sequence 17534, A
71	17	1.7	244	9 US-09-796-692-7114	Sequence 7114, Ap
72	17	1.7	263	9 US-09-796-692-2846	Sequence 2846, Ap
73	17	1.7	271	10 US-09-878-574-8204	Sequence 8204, Ap
74	17	1.7	275	10 US-09-878-574-12123	Sequence 12123, A
75	17	1.7	300	9 US-10-060-036-2874	Sequence 2874, Ap
76	17	1.7	354	10 US-09-864-761-750	Sequence 750, Appl
77	17	1.7	364	9 US-09-796-692-6069	Sequence 6069, Ap
78	17	1.7	364	10 US-09-864-761-3828	Sequence 3828, Ap
79	17	1.7	366	9 US-10-015-219-792	Sequence 792, Appl
80	17	1.7	366	10 US-09-777-516-792	Sequence 792, Appl
81	17	1.7	378	9 US-09-918-995-6975	Sequence 6975, Ap
82	17	1.7	387	9 US-10-108-605-110	Sequence 110, Appl
83	17	1.7	391	9 US-09-736-457-697	Sequence 697, Appl
84	17	1.7	391	9 US-09-902-841-697	Sequence 697, Appl
85	17	1.7	391	9 US-09-849-626-697	Sequence 697, Appl
86	17	1.7	391	9 US-10-017-754-697	Sequence 697, Appl
87	17	1.7	394	10 US-09-960-352-849	Sequence 849, Appl
88	17	1.7	406	9 US-09-918-995-1668	Sequence 1668, A
89	17	1.7	406	10 US-09-878-574-2459	Sequence 2459, A
90	17	1.7	417	9 US-09-918-995-34307	Sequence 34307, A
91	17	1.7	423	9 US-09-918-995-4171	Sequence 4171, Ap
92	17	1.7	426	9 US-09-918-995-3458	Sequence 3458, Ap

```

c 93 17 1.7 430 9 US-09-918-995-16733 sequence 16733, A
c 94 17 1.7 446 9 US-09-918-995-26057 sequence 26057, A
c 95 17 1.7 449 9 US-09-918-995-14537 sequence 14537, A
c 96 17 1.7 456 9 US-09-796-692-2827 sequence 2827, Ap
c 97 17 1.7 488 9 US-09-918-995-34571 sequence 34571, A
c 98 17 1.7 492 9 US-10-046-935-1265 sequence 1265, Ap
c 99 17 1.7 492 9 US-09-878-178-1265 sequence 1265, Ap
c 100 17 1.7 492 9 US-10-146-502-1265 sequence 1265, Ap

```

ALIGNMENTS

RESULT 1

```

US-09-303-510-5
; Sequence 5, Application US/09303510A
; Patent No. US20020028208A1
; GENERAL INFORMATION:
; APPLICANT: Hash, Stephen M.
; APPLICANT: Choi, Insoo
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
; TITLE OF INVENTION: CTLA-4 Nucleic Acid and Polypeptides
; FILE REFERENCE: 54954
; CURRENT APPLICATION NUMBER: US/09/303, 510A
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083, 869
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 83
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO: 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: Feline
US-09-303-510-5

```

```

Query Match          95.2%; Score 948; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY 1 ATGGGCAATTTGTGACAGACATATGGGACTGAGTCACTCTCTCTGTGATGGCCCTCTG 60
DB 63 ATGGGCAATTTGTGACAGACATATGGGACTGAGTCACTCTCTCTGTGATGGCCCTCTG 122
QY 61 CTCTCTGTGTTTCTTCCATGAGAGTCAAGCATATTTCAACAAGAGTGGAGAACTGCA 120
DB 123 CTCTCTGTGTTTCTTCCATGAGAGTCAAGCATATTTCAACAAGAGTGGAGAACTGCA 182
QY 121 TGGCATTATTACAACTCTCAAAACATAAGCTGATGAGTGTGATATTTTGGCAGGAC 180
DB 183 TGGCATTATTACAACTCTCAAAACATAAGCTGATGAGTGTGATATTTTGGCAGGAC 242
QY 181 CAGGATAGCTGTGTTCTGTATGAGATATTCAGAGGCAAGAGAACCCCAAAATGTTTCA 240
DB 243 CAGGATAGCTGTGTTCTGTATGAGATATTCAGAGGCAAGAGAACCCCAAAATGTTTCA 302
QY 241 CTCGAATTAAGAGGCGCTGACAAAGCTTTGACAAGGACAACCTGAGCCCTGACACAT 300
DB 303 CTCGAATTAAGAGGCGCTGACAAAGCTTTGACAAGGACAACCTGAGCCCTGACACAT 362
QY 301 GTTCAGATCAAGGACAGGACACATATCATCTGTTTCATTATTAAGAGGCCCAAAAGA 360
DB 363 GTTCAGATCAAGGACAGGACACATATCATCTGTTTCATTATTAAGAGGCCCAAAAGA 422
QY 361 CTAGTTCCTCATGACCAATATGTTCTGACCTATCAGTGTGTTGCTTAAGTCAACCT 420
DB 423 CTAGTTCCTCATGACCAATATGTTCTGACCTATCAGTGTGTTGCTTAAGTCAACCT 482
QY 421 GAAATTAAGTACTTCTAATGAGACAGAAATTTGSCATCATTAATTTGACCTGTCA 480
DB 483 GAAATTAAGTACTTCTAATGAGACAGAAATTTGSCATCATTAATTTGACCTGTCA 542
QY 481 TGTATACAAAGGTTACCGAAGCCTAAGAGATGATATTTTCAAGTAAACATGAGAAATTA 540

```

```

DB 543 TGTATACAAAGTACCACAGACCTAAGAGATGTATTTTCAGTAAACACTGGAATTTCA 602
QY 541 ACTACTAGATATATCTGATGAAAGAAATCTCAAAATATATGTGACAGAACTGTCAAC 600
DB 603 ACTACTAGATATATCTGATGAAAGAAATCTCAAAATATATGTGACAGAACTGTCAAC 662
QY 601 GTTTCATACGCTTGGCTTTTTCAGTCCCGAAGCACACAATGTAGCGTCTTTGTGTC 660
DB 663 GTTTCATACGCTTGGCTTTTTCAGTCCCGAAGCACACAATGTAGCGTCTTTGTGTC 722
QY 661 CTGAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATGATGCACAACCT 720
DB 723 CTGAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATGATGCACAACCT 782
QY 721 AAGATTAAGACCTCTGACAGGCCACTTCTCTGATTTGGGCTTACTTGAATGTTT 780
DB 783 AAGATTAAGACCTCTGACAGGCCACTTCTCTGATTTGGGCTTACTTGAATGTTT 842
QY 781 GTTGTATTTTGTGGATGGTGTCTTAAACACTAAGGAAAGAAAGAGAGAGAGCT 840
DB 843 GTTGTATTTTGTGGATGGTGTCTTAAACACTAAGGAAAGAAAGAGAGAGAGAGCT 902
QY 841 GGCCCTCTCATGATGTGAAACCATCAAAAGGAGAGAAAGAGAGAGAGAGAGAGAGAG 900
DB 903 GGCCCTCTCATGATGTGAAACCATCAAAAGGAGAGAGAAAGAGAGAGAGAGAGAGAG 962
QY 901 GAAAGATACCATACACAGTCTGAGAGATCTGATGAAAGCCAGTGT 948
DB 963 GAAAGATACCATACACAGTCTGAGAGATCTGATGAAAGCCAGTGT 1010

```

RESULT 2

```

US-09-303-040-5
; Sequence 5, Application US/09303040
; Patent No. US20020051792A1
; GENERAL INFORMATION:
; APPLICANT: Winslow, Barbara J.
; APPLICANT: Cochran, Mark D.
; TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
; TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof
; FILE REFERENCE: 54957-B
; CURRENT APPLICATION NUMBER: US/09/303, 040
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083, 870
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 82
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO: 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: feline CD86
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (63)..(1052)
US-09-303-040-5

```

```

Query Match          95.2%; Score 948; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY 1 ATGGGCAATTTGTGACAGACATATGGGACTGAGTCACTCTCTGTGATGGCCCTCTG 60
DB 63 ATGGGCAATTTGTGACAGACATATGGGACTGAGTCACTCTCTGTGATGGCCCTCTG 122
QY 61 CTCTCTGTGTTTCTTCCATGAGAGTCAAGCATATTTCAACAAGAGTGGAGAACTGCA 120
DB 123 CTCTCTGTGTTTCTTCCATGAGAGTCAAGCATATTTCAACAAGAGTGGAGAACTGCA 182
QY 121 TGGCATTATTACAACTCTCAAAACATAAGCTGATGAGTGTGATATTTTGGCAGGAC 180
DB 183 TGGCATTATTACAACTCTCAAAACATAAGCTGATGAGTGTGATATTTTGGCAGGAC 242

```

```

1  PRIOR APPLICATION NUMBER: 60/200,303
2  PRIOR FILING DATE: 2000-04-28
3  PRIOR APPLICATION NUMBER: 60/200,779
4  PRIOR FILING DATE: 2000-04-28
5  PRIOR APPLICATION NUMBER: 60/200,999
6  PRIOR FILING DATE: 2000-05-01
7  PRIOR APPLICATION NUMBER: 60/202,084
8  PRIOR FILING DATE: 2000-05-04
9  PRIOR APPLICATION NUMBER: 60/206,201
10 PRIOR FILING DATE: 2000-05-22
11 PRIOR APPLICATION NUMBER: 60/218,950
12 PRIOR FILING DATE: 2000-07-14
13 PRIOR APPLICATION NUMBER: 60/222,903
14 PRIOR FILING DATE: 2000-08-03
15 PRIOR APPLICATION NUMBER: 60/223,416
16 PRIOR FILING DATE: 2000-08-04
17 PRIOR APPLICATION NUMBER: 60/223,378
18 PRIOR FILING DATE: 2000-08-07
19 NUMBER OF SEQ ID NOS: 9597
20 SOFTWARE: FastSeq for Windows Version 3.0
21 SEQ ID NO 7817
22 LENGTH: 551
23 TYPE: DNA
24 ORGANISM: Homo sapiens
25 FEATURE:
26 NAME/KEY: unsure
27 LOCATION: (526)
28 OTHER INFORMATION: n=A,T,C or G
29 NAME/KEY: unsure
30 LOCATION: (535)
31 OTHER INFORMATION: n=A,T,C or G
32 US-09-796-692-7817
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
9
```

;; PRIOR APPLICATION NUMBER: 60/222,903
;; PRIOR FILING DATE: 2000-08-03
;; PRIOR APPLICATION NUMBER: 60/223,416
;; PRIOR FILING DATE: 2000-08-04
;; PRIOR APPLICATION NUMBER: 60/223,378
;; PRIOR FILING DATE: 2000-08-07
;; NUMBER OF SEQ ID NOS: 9597
;; SOFTWARE: FastSeq for Windows Version 3.0
;; SEQ ID NO 7754
;; LENGTH: 598
;; TYPE: DNA
;; ORGANISM: Homo sapiens
;; FEATURE:
;; NAME/KEY: unsure
;; LOCATION: (574)
;; OTHER INFORMATION: n-A,T,C or G
US-09-796-692-7734

Query Match 3.3%; Score 33; DB 9; Length 598;
Best Local Similarity 100.0%; Pred. No. 7.1e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 394 TCAGTCTTCTACTGTCACCTGAATA 426
|||||
DB 503 TCAGTCTTCTACTGTCACCTGAATA 535

RESULT 5
US-10-105-200A-34
;; Sequence 34, Application US/10105200A
;; Publication No. US20030072796A1
;; GENERAL INFORMATION:
;; APPLICANT: CAI, Zeling
;; APPLICANT: SPRENT, Jonathan
;; APPLICANT: BRUNMARK, Anders
;; APPLICANT: JACKSON, Michael
;; APPLICANT: PETERSON, Per A.
;; TITLE OF INVENTION: SYNTHETIC ANTIGEN PRESENTING MATRIX WITH
;; FILE REFERENCE: TSRI 471.0 Con.3
;; CURRENT APPLICATION NUMBER: US/10/105,200A
;; CURRENT FILING DATE: 2002-06-13
;; PRIOR APPLICATION NUMBER: US 09/042,492
;; PRIOR FILING DATE: 1998-03-16
;; PRIOR APPLICATION NUMBER: US 08/400,338
;; PRIOR FILING DATE: 1995-03-08
;; NUMBER OF SEQ ID NOS: 59
;; SOFTWARE: FastSeq for Windows Version 4.0
;; SEQ ID NO 34
;; LENGTH: 751
;; TYPE: DNA
;; ORGANISM: Homo Sapiens
US-10-105-200A-34

Query Match 3.3%; Score 33; DB 9; Length 751;
Best Local Similarity 100.0%; Pred. No. 7.2e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 394 TCAGTCTTCTACTGTCACCTGAATA 426
|||||
DB 397 TCAGTCTTCTACTGTCACCTGAATA 429

RESULT 6
US-09-845-899A-4
;; Sequence 4, Application US/09845899A
;; Patent No. US20020147326A1
;; GENERAL INFORMATION:
;; APPLICANT: CHAIKIN, MARGERY ANN
;; APPLICANT: LYNN, SALLY DOREEN PATRICIA
;; APPLICANT: SWEET, RAYMOND W.
;; APPLICANT: TRUENH, ALEMBEGED
;; TITLE OF INVENTION: HEXAMERIC FUSION PROTEINS AND USES

;; TITLE OF INVENTION: THEREFOR
;; FILE REFERENCE: P50496
;; CURRENT APPLICATION NUMBER: US/09/845,899A
;; CURRENT FILING DATE: 2001-04-30
;; PRIOR APPLICATION NUMBER: 09/202,346
;; PRIOR FILING DATE: 1999-01-13
;; PRIOR APPLICATION NUMBER: US 60/043,948
;; PRIOR FILING DATE: 1997-02-19
;; PRIOR APPLICATION NUMBER: US 60/038,915
;; PRIOR FILING DATE: 1997-02-21
;; NUMBER OF SEQ ID NOS: 27
;; SOFTWARE: FastSeq for Windows Version 3.0
;; SEQ ID NO 4
;; LENGTH: 831
;; TYPE: DNA
;; ORGANISM: HOMO SAPIENS
;; FEATURE:
;; NAME/KEY: CDS
;; LOCATION: (52)...(831)
US-09-845-899A-4

Query Match 3.3%; Score 33; DB 10; Length 831;
Best Local Similarity 100.0%; Pred. No. 7.3e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 394 TCAGTCTTCTACTGTCACCTGAATA 426
|||||
DB 442 TCAGTCTTCTACTGTCACCTGAATA 474

RESULT 7
US-09-826-025-11
;; Sequence 11, Application US/09826025
;; Patent No. US20020162123A1
;; GENERAL INFORMATION:
;; APPLICANT: Chang, Lung-Ji
;; TITLE OF INVENTION: Combination Immunogene Therapy
;; NUMBER OF SEQUENCES: 25
;; CORRESPONDENCE ADDRESS:
;; ADDRESSER: Medien & Carroll, LLP
;; STREET: 220 Montgomery Street, Suite 2200
;; CITY: San Francisco
;; STATE: California
;; COUNTRY: United States of America
;; ZIP: 94104
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: Floppy disk
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: PatentIn Release #1.0, Version #1.30
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/09/826,025
;; FILING DATE: 04-Apr-2001
;; CLASSIFICATION: <Unknown>
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 08/838,702
;; FILING DATE: <Unknown>
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Ingolia, Diane E.
;; REGISTRATION NUMBER: 40,027
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (415) 705-8410
;; TELEFAX: (415) 397-8338
;; INFORMATION FOR SEQ ID NO: 11:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 972 base pairs
;; TYPE: nucleic acid
;; STRANDEDNESS: double
;; TOPOLOGY: linear
;; MOLECULE TYPE: other nucleic acid
;; DESCRIPTION: /desc = "DNA"
;; SEQUENCE DESCRIPTION: SEQ ID NO: 11:

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 1867.06 Seconds
(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-28

Perfect score: 996

Sequence: 1 atggcatttgcagcacac.....acaaagtactacatttt 996

Scoring table: OLIGO-NUC

Searched: 16154066 seqs, 8097743376 residues

Word size: 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database:

EST:
1: em_estba:*
2: em_esthum:*
3: em_estin:*
4: em_estmu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_hlc:*
9: gb_est1:*
10: gb_est2:*
11: gb_hlc:*
12: gb_est3:*
13: gb_est4:*
14: gb_est5:*
15: em_estfun:*
16: em_estom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_inv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_tod:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	49	4.9	448	9	AA056906 EST224R P
2	40	4.0	512	9	AA056905 EST224F P
3	33	3.3	655	13	BI824940 603032554
4	33	3.3	709	13	BI0109553 imagegc.7
5	33	3.3	753	13	BI906246 603063172
6	30	3.0	314	12	BF171298 PCL2416 M

7	28	2.8	629	10	BB631711	BB631711
8	28	2.8	654	10	BB635605	BB635605
9	22	2.2	578	13	BM089797	BM089797
10	22	2.2	1002	12	BF137460	BF137460
11	21	2.1	167	17	AZ121157	AZ121157
12	21	2.1	303	10	AV530630	AV530630
13	21	2.1	380	10	AM260541	AM260541
14	21	2.1	402	10	AV602723	AV602723
15	21	2.1	407	10	AM617088	AM617088
16	21	2.1	408	10	AV817856	AV817856
17	21	2.1	416	10	AV808840	AV808840
18	21	2.1	420	17	AZ235242	AZ235242
19	21	2.1	430	17	AZ496704	AZ496704
20	21	2.1	433	10	AV600142	AV600142
21	21	2.1	450	10	AV810683	AV810683
22	21	2.1	432	10	AV810294	AV810294
23	21	2.1	515	12	BG622615	BG622615
24	21	2.1	749	17	AG146101	AG146101
25	21	2.1	1259	14	BM922472	BM922472
26	20	2.0	172	10	AM034773	AM034773
27	20	2.0	237	12	BG628176	BG628176
28	20	2.0	234	10	BM429395	BM429395
29	20	2.0	335	13	BI402787	BI402787
30	20	2.0	363	17	AZ046631	AZ046631
31	20	2.0	424	17	AQ315914	AQ315914
32	20	2.0	438	17	AO504944	AO504944
33	20	2.0	459	17	BF447785	BF447785
34	20	2.0	489	17	AZ084426	AZ084426
35	20	2.0	536	17	AQ455702	AQ455702
36	20	2.0	581	9	AA145473	AA145473
37	20	2.0	624	17	AZ387434	AZ387434
38	20	2.0	636	10	AM767798	AM767798
39	20	2.0	636	14	BO155282	BO155282
40	20	2.0	655	11	AT068423	AT068423
41	20	2.0	710	9	AL709933	AL709933
42	20	2.0	724	12	BG777289	BG777289
43	20	2.0	730	17	AG147934	AG147934
44	20	2.0	781	17	BH536818	BH536818
45	20	2.0	837	12	BG116339	BG116339
46	20	2.0	939	17	AG177885	AG177885
47	19	1.9	170	10	AV349333	AV349333
48	19	1.9	177	12	BF749521	BF749521
49	19	1.9	193	12	BF730929	BF730929
50	19	1.9	197	12	BF408097	BF408097
51	19	1.9	211	14	N98388	N98388
52	19	1.9	216	17	AZ824333	AZ824333
53	19	1.9	243	9	AV242281	AV242281
54	19	1.9	248	10	BB060114	BB060114
55	19	1.9	256	10	BB517100	BB517100
56	19	1.9	265	10	BB606710	BB606710
57	19	1.9	266	14	BM899917	BM899917
58	19	1.9	270	10	BB244292	BB244292
59	19	1.9	275	10	BB078124	BB078124
60	19	1.9	276	17	AZ602541	AZ602541
61	19	1.9	278	10	BB232854	BB232854
62	19	1.9	279	14	BM899259	BM899259
63	19	1.9	281	10	BB347088	BB347088
64	19	1.9	286	10	BB190754	BB190754
65	19	1.9	287	10	BE111952	BE111952
66	19	1.9	288	10	BB440474	BB440474
67	19	1.9	290	10	AV735460	AV735460
68	19	1.9	290	10	BB380109	BB380109
69	19	1.9	290	10	BB472511	BB472511
70	19	1.9	300	9	BP018386	BP018386
71	19	1.9	300	9	AU098694	AU098694
72	19	1.9	300	14	D19283	D19283
73	19	1.9	302	10	BB330068	BB330068
74	19	1.9	306	9	AA759535	AA759535
75	19	1.9	307	10	BB395266	BB395266
76	19	1.9	318	10	BB228677	BB228677
77	19	1.9	319	10	BB204887	BB204887
78	19	1.9	322	10	BB557912	BB557912
79	19	1.9	324	10	AV741053	AV741053
80	19	1.9	324	10	AV741053	AV741053

```

80      19      1.9      324      12      BE952499      UI-M-CE0-
81      19      1.9      329      10      BB390709      BB390709
82      19      1.9      329      10      BE825954      CM2-EM001
83      19      1.9      341      12      AM254786      ML106 PE
84      19      1.9      345      12      BF536754      60204235
85      19      1.9      348      12      BG093310      ut77g11.x
86      19      1.9      373      9      A1044777      UI-R-C1-J
87      19      1.9      378      10      AV749988      AV749988
88      19      1.9      381      12      BF037606      601461178
89      19      1.9      384      10      AV812067      AV812067
90      19      1.9      391      17      A2636955      1M0501N13
91      19      1.9      406      17      AQ123480      HS-3101_B
92      19      1.9      412      10      AV741176      AV741176
93      19      1.9      414      9      AU017834      AU017834
94      19      1.9      415      17      AO518306      HS-5105_A
95      19      1.9      417      10      AV739230      AV739230
96      19      1.9      418      14      BM964190      UI-M-EQ0-
97      19      1.9      425      12      BF293343      WHE2155_F
98      19      1.9      428      13      BM149285      TCAP2Q11
99      19      1.9      431      10      BE487802      176909 BA
100     19      1.9      435      14      BP010133      BP010133

```

ALIGNMENTS

```

RESULT 1
AA056906      448 bp      mRNA      linear      EST 18-SEP-1996
LOCUS      EST224F Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
DEFINITION      Sus scrofa cDNA clone SPL224 reverse similar to L25259 CTLA4
counter-receptor, human, mRNA sequence.

```

```

ACCESSION      AA056906      GI:1549546
VERSION
KEYWORDS
SOURCE
ORGANISM      Sus scrofa
Pig.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

```

REFERENCE      1 (bases 1 to 448)
AUTHORS      Tuggle,C.K., Wahls,S. and Schmitz,C.
TITLE      Expressed Sequence Tags from Pig Spleen
JOURNAL      Unpublished (1996)
COMMENT      Contact: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGCGCAGCAGCTCCTG
BACKWARD: GACCGGCGCTCAGCT
Insert length: 950      Std Error: 50.00
Seq primer: GACCGGCGCTCAGCT.

```

```

FEATURES
source
1..448
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue_type="spleen"
/dev_stage="adult"
/note="Oligo (dT) primed"
Location/Qualifiers

```

```

BASE COUNT      126 a      116 c      89 g      116 t      1 others
ORIGIN

```

```

Query Match      4.9%; Score 49; DB 9; Length 448;
Best Local Similarity 100.0%; Pred.No. 3.7e-14;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

OY 379 ATGAGTTCTGACCTATCAGTCTTCTGCTAACTGATGACACCTGAATAA 427

```

Db      341      ATGAGTTCTGACCTATCAGTCTTCTGCTAACTGATGACACCTGAATAA 389

```

```

RESULT 2
AA056905/c      512 bp      mRNA      linear      EST 18-SEP-1996
LOCUS      EST224F Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
DEFINITION      Sus scrofa cDNA clone SPL224 forward similar to L25259 CTLA4
counter-receptor, human, mRNA sequence.

```

```

ACCESSION      AA056905
VERSION
KEYWORDS
SOURCE
ORGANISM      Sus scrofa
Pig.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

```

REFERENCE      1 (bases 1 to 512)
AUTHORS      Tuggle,C.K., Wahls,S. and Schmitz,C.
TITLE      Expressed Sequence Tags from Pig Spleen
JOURNAL      Unpublished (1996)
COMMENT      Contact: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGCGCAGCAGCTCCTG
BACKWARD: GACCGGCGCTCAGCT
Insert length: 950      Std Error: 50.00
Seq primer: TGCGCAGCAGCTCCTG.

```

```

FEATURES
source
1..512
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue_type="spleen"
/dev_stage="adult"
/note="Oligo (dT) primed"
Location/Qualifiers

```

```

BASE COUNT      125 a      106 c      114 g      163 t      4 others
ORIGIN

```

```

Query Match      4.0%; Score 40; DB 9; Length 512;
Best Local Similarity 100.0%; Pred.No. 1.9e-09;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

OY 810 AACACTAAGAAAGAAAGAAAGACAGCTGCCCTCT 849

Db 193 AACACTAAGAAAGAAAGAAAGACAGCTGCCCTCT 154

```

RESULT 3
B1824940      655 bp      mRNA      linear      EST 04-OCT-2001
LOCUS      60303554F1 NIH_MGC_115 Homo sapiens cDNA clone IMAGE:5173789 5',
DEFINITION      mRNA sequence.
ACCESSION      B1824940
VERSION
KEYWORDS
SOURCE
ORGANISM      Homo sapiens
human.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

```

```

REFERENCE      1 (bases 1 to 655)
AUTHORS      NIH-MGC http://mgc.nci.nih.gov/.
TITLE      National Institutes of Health, Mammalian Gene Collection (MGC)
JOURNAL      Unpublished (1999)
COMMENT      Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov

```


ALIGNMENTS

```
RESULT 1
US-09-039-982A-34
; Sequence 34, Application US/0903982A
; Patent No. 6225042
; GENERAL INFORMATION:
; APPLICANT: Cai, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR ACTIVATION OF T-CELL
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hieryl, Ltd.
; STREET: 20 No. 6225042th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,982A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: TSRI4710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1180
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHEICAL: NO
; ANTI-SENSE: NO
; US-09-039-982A-34

Query Match          3.3%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred No. 5.2e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      394 TCAGTGGTCTGCTACTTCACTCAACCTGAATA 426
      |||||||
Db      397 TCAGTGGTCTGCTACTTCACTCAACCTGAATA 429

RESULT 2
US-09-039-641-34
; Sequence 34, Application US/09039641
; Patent No. 6251627
; GENERAL INFORMATION:
; APPLICANT: Cai, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR
; TITLE OF INVENTION: ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 45
```

```
CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hieryl, Ltd.
; STREET: 20 No. 6251627th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,641
; FILING DATE: 8-MAR-1995
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: TSRI4710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1180
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHEICAL: NO
; ANTI-SENSE: NO
; US-09-039-641-34

Query Match          3.3%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred No. 5.2e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      394 TCAGTGGTCTGCTACTTCACTCAACCTGAATA 426
      |||||||
Db      397 TCAGTGGTCTGCTACTTCACTCAACCTGAATA 429

RESULT 3
US-09-039-762A-34
; Sequence 34, Application US/09039762A
; Patent No. 6255073
; GENERAL INFORMATION:
; APPLICANT: Cai, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS
; TITLE OF INVENTION: FOR ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hieryl, Ltd.
; STREET: 20 No. 6235073th Wacker Drive, 36th Floor
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,762A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
```

GenCore version 5.1.4_p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 1476.53 seconds

(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509
Sequence: 1 atacaagttaccagacc.....ggcgacaaagttactacaca 509Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

GenEmbl:*
1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pln:*
35: em_htg_rod:*
36: em_htg_mam:*
37: em_htg_vrl:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	509	100.0	2830	4	AY007704	AY007704 Felis cat
2	465	91.4	1138	4	AF157827	AF157827 Felis cat
3	465	91.4	1270	4	AB030652	AB030652 Felis cat
4	56	11.0	1897	4	AF106826	AF106826 Canis fam
5	42	8.3	1795	4	AF106827	AF106827 Canis fam
6	40	7.9	994	4	PICD866	L76099 Sus scrofa
7	40	7.9	994	6	AX027016	AX027016 Sequence
8	22	4.3	66325	2	AC016425	AC016425 Homo sapi
9	22	4.3	75974	2	AC030991	AC030991 Homo sapi
10	22	4.3	81323	2	AC099244	AC099244 Rattus no
11	22	4.3	94203	2	AC023907	AC023907 Homo sapi
12	22	4.3	98469	2	AC110936	AC110936 Rattus no
13	22	4.3	171124	2	AC107124	AC107124 Rattus no
14	22	4.3	175122	2	AC111364	AC111364 Rattus no
15	22	4.3	208230	9	AC090651	AC090651 Homo sapi
16	22	4.3	221789	2	AC115967	AC115967 Mus muscu
17	22	4.3	262549	2	AC113623	AC113623 Rattus no
18	21	4.1	133	4	AF222915	AF222915 Sus scrofa
19	21	4.1	505	6	AX153653	AX153653 Sequence
20	21	4.1	924	4	BTA291475	AJ291475 Bos tauru
21	21	4.1	1546	8	AY054163	AY054163 Arabidops
22	21	4.1	1649	8	AF428395	AF428395 Arabidops
23	21	4.1	53785	2	AC099866	AC099866 Mus muscu
24	21	4.1	53785	2	AC099866	AC099866 Mus muscu
25	21	4.1	75803	8	AB016890	AB016890 Arabidops
26	21	4.1	91448	2	AL672061	AL672061 Human DNA
27	21	4.1	103610	9	HS0240B8	AL049544 Human DNA
28	21	4.1	149810	2	AL691455	AL691455 Homo sapi
29	21	4.1	158647	2	AC103495	AC103495 Rattus no
30	21	4.1	159020	9	AL450307	AL450307 Human DNA
31	21	4.1	163584	2	AC127843	AC127843 Rattus no
32	21	4.1	166384	2	AC113446	AC113446 Mus muscu
33	21	4.1	167469	2	AC113882	AC113882 Rattus no
34	21	4.1	174662	2	AC026036	AC026036 Homo sapi
35	21	4.1	177552	2	AC099361	AC099361 Rattus no
36	21	4.1	181842	2	AL391823	AL391823 Homo sapi
37	21	4.1	185574	2	AC128374	AC128374 Rattus no
38	21	4.1	205221	2	AC115723	AC115723 Mus muscu
39	20	3.9	912	8	AF042489	AF042489 Oryza sat
40	20	3.9	4975	8	UFA311552	AJ311552 Uromyces
41	20	3.9	31986	8	AF458976	AF458976 Saccharom
42	20	3.9	72052	2	AC121263	AC121263 Mus muscu
43	20	3.9	72052	2	AC121263	AC121263 Mus muscu
44	20	3.9	85448	5	AL645788	AL645788 zebrafish
45	20	3.9	99509	3	LMFP1295	AL357773 Leishmani
46	20	3.9	102488	2	AC110288	AC110288 Homo sapi
47	20	3.9	104792	2	AC111653	AC111653 Rattus no
48	20	3.9	109992	2	AL845535	AL845535 Danio rer
49	20	3.9	110000	2	AC111891_3	Continuation (4 of
50	20	3.9	115641	8	F8K4	AC004392 Arabidops
51	20	3.9	115974	2	AC094317	AC094317 Rattus no
52	20	3.9	131769	2	AC104306	AC104306 Homo sapi
53	20	3.9	146451	2	AC019309	AC019309 Homo sapi
54	20	3.9	155357	2	AC118923	AC118923 Rattus no
55	20	3.9	160887	2	AC099718	AC099718 Mus muscu
56	20	3.9	162632	2	AC095487	AC095487 Rattus no
57	20	3.9	163842	2	AC106434	AC106434 Rattus no
58	20	3.9	167951	2	AL844553	AL844553 Mus muscu
59	20	3.9	170333	2	AL139019	AL139019 Homo sapi
60	20	3.9	171857	2	AC105880	AC105880 Rattus no
61	20	3.9	172288	2	AP005531	AP005531 Oryza sat
62	20	3.9	173906	2	AC121059	AC121059 Rattus no
63	20	3.9	178728	9	AC106461	AC106461 Rattus no
64	20	3.9	181532	9	CNS01DW2	AL136298 Human chr
65	20	3.9	182027	2	AC110171	AC110171 Mus muscu

```
66 20 3.9 18280 2 AC107414 AC107414 Rattus no
67 20 3.9 185983 9 AP000942 AP000942 Homo sapi
68 20 3.9 186058 2 AC112245 AC112245 Homo sapi
69 20 3.9 186659 2 AC129610 AC129610 Rattus no
70 20 3.9 189845 2 AC095282 AC095282 Rattus no
71 20 3.9 193772 9 AC007073 AC007073 Homo sapi
72 20 3.9 194082 2 AC125554 AC125554 Rattus no
73 20 3.9 194851 2 AC124607 AC124607 Rattus no
74 20 3.9 194881 2 AC018967 AC018967 Homo sapi
75 20 3.9 195701 2 AC091692 AC091692 Homo sapi
76 20 3.9 196452 2 AC018869 AC018869 Homo sapi
77 20 3.9 198688 2 AC094416 AC094416 Rattus no
78 20 3.9 201657 9 AC006840 AC006840 Homo sapi
79 20 3.9 204888 2 AL805948 AL805948 Mus muscu
80 20 3.9 206082 2 AC126936 AC126936 Mus muscu
81 20 3.9 206640 2 AC102611 AC102611 Mus muscu
82 20 3.9 207391 2 AC111890 AC111890 Rattus no
83 20 3.9 209216 2 AC117126 AC117126 Rattus no
84 20 3.9 210476 2 AL672120 AL672120 Mus muscu
85 20 3.9 211220 2 AC107847 AC107847 Mus muscu
86 20 3.9 214484 2 AP001830 AP001830 Homo sapi
87 20 3.9 228147 2 AC128365 AC128365 Rattus no
88 20 3.9 234524 2 AC102428 AC102428 Mus muscu
89 20 3.9 273252 2 AC123946 AC123946 Mus muscu
90 20 3.7 1239 9 HSASFAS1 AF061978 Homo sapi
91 20 3.7 1814 9 HSASFAS1 AF061978 Homo sapi
92 19 3.7 2366 10 MM0291750 AJ291750 Mus muscu
93 19 3.7 2463 6 AX191447 AX191447 Sequence
94 19 3.7 2593 10 RNO295748 AJ295748 Rattus no
95 19 3.7 2941 5 XL085969 U85969 Xenopus lae
96 19 3.7 3510 3 AY043295 AY043295 Trypanoso
97 19 3.7 4329 5 CHKCCPA L29233 Gallus dome
98 19 3.7 4491 8 SCYMD091W L271367 S.cerevisia
99 19 3.7 6197 6 AX344849 AX344849 Sequence
100 19 3.7 9050 14 AF049337 AF049337 HIV-1 c10
```

ALIGNMENTS

```
RESULT 1
LOCUS AY007704 2830 bp mRNA linear MAM 03-OCT-2001
DEFINITION Felis catus CD86 (CD86) mRNA, complete cds.
ACCESSION AY007704
VERSION AY007704.1 GI:15418725
KEYWORDS
```

ORGANISM

Felis catus.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE
1 (bases 1 to 2830)
Yang, S., Sellins, K.S., Powell, T., Stoneman, E. and Sim, G.K.
TITLE Novel transcripts encoding secreted forms of feline CD80 and CD86

JOURNAL Vet. Immunol. Immunopathol. 81 (1-2), 15-21 (2001)
MEDLINE 21390213
PUBMED 11498243

REFERENCE
2 (bases 1 to 2830)
Yang, S.

JOURNAL Direct Submission
TITLE Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
PROSPECT Parkway, Ft Collins, CO 80525, USA
LOCATION/Qualifiers

FEATURES

source
1..2830
/organism="Felis catus"
/db_xref="taxon:9685"

gene
1..2830
/gene="CD86"

CDS
179..1177
/gene="CD86"
/note="CD28/CTLA4 counter receptor; B7-2 protein"
/codon_start=1

```
/product="CD86"  
/protein_id="AAG23342.1"  
/db_xref="gi:15418726"  
/translation="MGIDSTMGSHITLIVALLISGVSSMKSOAYFNKCELCHEFT  
NSQNSIDELVFWDDQKLVLYEIPREKREPOVNHLYKRTSFSDKDLRLHNO  
IKDKGTICFTHYKPGKLVPMHSSLSVLANSODEITVTSNFRNSGILNLTCS  
SLQGYPERKEMFQNTENSTTKYDVTWVKSONVTELVNLSLPSVPAHNVSVF  
CALKLETEMLSLPEFNIDAPKDDPEQGHFLMVAIVMVFVFCGVSPKTLRRK  
KQPSHECEITKREKRESKQNTNRVYHVPERSEDAOCINILKTASGDKSTHF"
```

BASE COUNT 877 a 570 c 586 g 797 t
Query Match 100.0%; Score 509; DB 4; Length 2830;
Best Local Similarity 100.0%; Pred. No. 1e-263;
Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATCAAGCTTACCCCAACCTAAGAGATGATTTTCACTTAACAGAGATTCACCT 60
DB 662 ATCAAGCTTACCCCAACCTAAGAGATGATTTTCACTTAACAGAGATTCACCT 721

QY 61 ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGAACTGACAGCTT 120
DB 722 ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGAACTGACAGCTT 781

QY 121 TCTATCAGCTTGCTTTTCACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 180
DB 782 TCTATCAGCTTGCTTTTCACTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 841

QY 181 AAACCTGGAACACTGGAAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 240
DB 842 AAACCTGGAACACTGGAAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 901

QY 241 GATAAGACCCCTGAAGAACAGCCACTCTCTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTG 300
DB 902 GATAAGACCCCTGAAGAACAGCCACTCTCTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTG 961

QY 301 GTTTTGTGCGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 360
DB 962 GTTTTGTGCGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1021

QY 361 CCCTTCATGAATGTGAACCATCAAAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 420
DB 1022 CCCTTCATGAATGTGAACCATCAAAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 1081

QY 421 AGAGTACATACACGCTACCTGAGAGATCTGATGAAGCCAGCTGATTAACATTTTGAAG 480
DB 1082 AGAGTACATACACGCTACCTGAGAGATCTGATGAAGCCAGCTGATTAACATTTTGAAG 1141

QY 481 ACAGCTCAGGCGACAAAGTACTACACA 509
DB 1142 ACAGCTCAGGCGACAAAGTACTACACA 1170

RESULT 2
LOCUS AF157827 1138 bp mRNA linear MAM 08-MAY-2000
DEFINITION Felis catus CD86 antigen (CD86) mRNA, complete cds.
ACCESSION AF157827
VERSION AF157827.1 GI:5381423
KEYWORDS

source
1..1138
/organism="Felis catus"
/db_xref="taxon:9685"

REFERENCE
1 (bases 1 to 1138)
Choi, I.S., Hash, S.M., Winslow, B.J. and Collisson, E.W.
TITLE Sequence analyses of feline B7 costimulatory molecules

JOURNAL Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)
MEDLINE 20180222
PUBMED 10713336

REFERENCE
2 (bases 1 to 1138)
Choi, I.S., Hash, S.M., Winslow, B.J. and Collisson, E.W.
TITLE Direct Submission

JOURNAL Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M University, Bldg. 1197 Rm. 222, College Station, TX 77843, USA

FEATURES

source

1. .1138
/organism="Felis catus"
/db_xref="taxon:9685"

gene

1. .1138
/gene="CD86"

CDS

63. .1052
/gene="CD86"

/note="B7-2 antigen"

/codon_start=1
/product="CD86 antigen"

/protein_id="AAD42974.1"

/db_xref="GI:5381424"

/translation="MGICDSYMGISHTLLVALLSGVSMKSOAYFNKTELPCHFT
NSONISLDELIVFWMODDKLVLYEIRFKENPQVHLKRTSPDKMTLRLHNVQ
IKDKGTIFCFIHYKPKGLVPMHOMSDLSVLANFSEPTVTSNENSGIINLTC
SIQGYPERKEMFOLNTENSTTKYDTVMKRSQNNVTLEINVSISLPSVPEAHNVSVF
CALKLETELEMLISLPENIDQPKDKPEQGHFLMAVLVMEVFCGMSFKTLRRK
KKQPSHECEETIKRERESKOTNERVYHVPERSDEACVNIKTASGDKNQ"

BASE COUNT 358 a 245 c 246 g 289 t
ORIGIN

Query Match 91.4%; Score 465; DB 4; Length 1138;
Best Local Similarity 100.0%; Pred. No. 7.1e-240;
Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTTACCAGAACCTAAGGAGATGTTTTCAGCTTAACACATGAAATTCACCT 60
|||||
DB 546 ATACAAGGTTTACCAGAACCTAAGGAGATGTTTTCAGCTTAACACATGAAATTCACCT 605
QY 61 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 120
|||||
DB 606 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 665
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 180
|||||
DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 725
QY 181 AAACGTGAGACATGAGATGCTGCTCTCCCTACCTTAAATATAGATGACAACTTAAG 240
|||||
DB 726 AAACGTGAGACATGAGATGCTGCTCTCCCTACCTTAAATATAGATGACAACTTAAG 785
QY 241 GATAAAGACCTGTAACAAGGCACTCTCTGATTCGCGCTGTACTTAAATGTTTGT 300
|||||
DB 786 GATAAAGACCTGTAACAAGGCACTCTCTGATTCGCGCTGTACTTAAATGTTTGT 845
QY 301 GTTTTGTGGAGTGTGTCCTTTTAAACACTAAGAAAGAGAAAGACAGCCTGCG 360
|||||
DB 846 GTTTTGTGGAGTGTGTCCTTTTAAACACTAAGAAAGAGAAAGACAGCCTGCG 905
QY 361 CCCTTCATGAATGTGAACCAATCAAAAGGAGAGAAAGACAAAGACCAACGAA 420
|||||
DB 906 CCCTTCATGAATGTGAACCAATCAAAAGGAGAGAGAAAGACAAAGACCAACGAA 965
QY 421 AGATACCATATACAGCTTACCTGAGAGATCTGATGAAGCCAGCTGT 465
|||||
DB 966 AGATACCATATACAGCTTACCTGAGAGATCTGATGAAGCCAGCTGT 1010

RESULT 3
AB030652 1270 bp mRNA linear MAM 01-MAR-2001
LOCUS AB030652
DEFINITION Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
complete cds.

AB030652
VERSION AB030652.1 GI:9796387

ACCESSION
KEYWORDS B-lymphocyte activation antigen B7-2 (CD86).
SOURCE Felis catus peripheral blood mononuclear cell cDNA to mRNA.

ORGANISM

Felis catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE 1 (sites)
AUTHORS Nishimura, Y., Shimojima, M., Miyazawa, T., Sato, E., Nakamura, K.,
Izumiya, Y., Ikeda, Y., Mikami, T. and Takahashi, E.
TITLE Molecular cloning of the cDNAs encoding the feline B-lymphocyte
activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
interact with human CTLA-19
Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)

JOURNAL MEDLINE
REFERENCE 20485322
AUTHORS Nishimura, Y.
TITLE Direct Submission
Submitted (31-JUL-1999) Yorihiro Nishimura, Faculty of Agriculture,
The University of Tokyo, Department of Veterinary Microbiology;
1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan
(E-mail: yorihiro@crocos.ocn.ne.jp, Tel: +81-3-5841-5396,
Fax: +81-3-5841-8184)
Sequence updated (08-Jun-2000).

COMMENT
FEATURES
source
Location/Qualifiers
1. .1270
/organism="Felis catus"
/db_xref="taxon:9685"
/cell_type="peripheral blood mononuclear cell"

gene
1. .1270
/gene="CD86"
240. .1238
/gene="CD86"

CDS
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB1688.1"

/db_xref="GI:9796388"

/translation="MGICDSYMGISHTLLVALLSGVSMKSOAYFNKTELPCHFT
NSONISLDELIVFWMODDKLVLYEIRFKENPQVHLKRTSPDKMTLRLHNVQ
IKDKGTIFCFIHYKPKGLVPMHOMSDLSVLANFSEPTVTSNENSGIINLTC
SIQGYPERKEMFOLNTENSTTKYDTVMKRSQNNVTLEINVSISLPSVPEAHNVSVF
CALKLETELEMLISLPENIDQPKDKPEQGHFLMAVLVMEVFCGMSFKTLRRK
KKQPSHECEETIKRERESKOTNERVYHVPERSDEACVNIKTASGDKSTHF"

polya_signal
1245. .1250
KQPSHECEETIKRERESKOTNERVYHVPERSDEACVNIKTASGDKSTHF"

BASE COUNT 378 a 281 c 260 g 351 t
ORIGIN

Query Match 91.4%; Score 465; DB 4; Length 1270;
Best Local Similarity 100.0%; Pred. No. 7e-240;
Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTTACCAGAACCTAAGGAGATGTTTTCAGCTTAACACATGAAATTCACCT 60
|||||
DB 723 ATACAAGGTTTACCAGAACCTAAGGAGATGTTTTCAGCTTAACACATGAAATTCACCT 782
QY 61 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 120
|||||
DB 783 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 842
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 180
|||||
DB 843 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 902
QY 181 AAACGTGAGACATGAGATGCTGCTCTCCCTACCTTAAATATAGATGACAACTTAAG 240
|||||
DB 903 AAACGTGAGACATGAGATGCTGCTCTCCCTACCTTAAATATAGATGACAACTTAAG 962
QY 241 GATAAAGACCTGTAACAAGGCACTCTCTGATTCGCGCTGTACTTAAATGTTTGT 300
|||||
DB 963 GATAAAGACCTGTAACAAGGCACTCTCTGATTCGCGCTGTACTTAAATGTTTGT 1022
QY 301 GTTTTGTGGAGTGTGTCCTTTTAAACACTAAGAAAGAGAAAGACAGCCTGCG 360
|||||
DB 1023 GTTTTGTGGAGTGTGTCCTTTTAAACACTAAGAAAGAGAAAGACAGCCTGCG 1082
QY 361 CCCTTCATGAATGTGAACCAATCAAAAGGAGAGAGAAAGACAAAGACCAACGAA 420
|||||
DB 1083 CCCTTCATGAATGTGAACCAATCAAAAGGAGAGAGAAAGACAAAGACCAACGAA 1142

OY 421 AGAGTACCATACGACGTACTGAGATCTGATGAAGCCAGTGT 465
 Db 1143 AGAGTACCATACGACGTACTGAGATCTGATGAAGCCAGTGT 1187

RESULT 4
 AF106826 1897 bp mRNA linear MAM 14-DEC-1999
 LOCUS Canis familiaris B7-2 protein (CD86) mRNA, complete cds.
 DEFINITION AF106826
 ACCESSION AF106826
 VERSION AF106826.1 GI:6572516
 KEYWORDS
 SOURCE Canis familiaris.
 ORGANISM Canis familiaris

REFERENCE
 AUTHORS Yang,S. and Sim,G.-K.
 TITLE New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules
 JOURNAL Immunogenetics 50 (5-6), 349-353 (1999)
 MEDLINE 20093996
 PUBMED 10630300
 REFERENCE 2 (bases 1 to 1897)
 AUTHORS Yang,S. and Sim,G.-K.
 TITLE Direct Submission
 JOURNAL Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
 source location/Qualifiers
 1..1897
 /organism="Canis familiaris"
 /db_xref="taxon:9615"
 /cell_type="peripheral blood mononuclear cells"
 1..1897
 /gene="CD86"
 1..5
 /gene="CD86"
 6..995
 /gene="CD86"
 /function="counter-receptor for CD28 and CD152 (CTLA4)"
 /codon_start=1
 /product="B7-2 protein"
 /protein_id="AAFI7297.1"
 /db_xref="GI:6572517"
 /translation="MYLRCTMELNNILFWITLLLYGAASMSQAYFNKGTGELPCFTN
 SONSLDELVEWQDQDKLVLYELRGKENPQVHKKYKGRISFDKNMTLLHNIQI
 KDKGLYOCFVHKGKGLVPMHOMNSDLSVLANFSOPELWTSNRTENGSGIINTCSS
 IOGPEPEKEMFLVKTENSTKYDYVMKSSONNTTELYNVSISFSVPEASNVSTFC
 VLOESMKLPSPVNIETNKKYRKRESEDTKERVYHETERSDEACVNIKSTASGDNSTGP"
 PPSHCEETNKKYRKRESEDTKERVYHETERSDEACVNIKSTASGDNSTGP"
 996..1897

3' UTR
 BASE COUNT 585 a 400 c 383 g 529 t
 ORIGIN
 Query Match 11.0%; Score 56; DB 4; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 7.5e-19;
 Matches 56; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 327 AACCTAAGAAAGAAAGAAAGAGCCGCGCCCTCAGCAAGTGAACCA 382
 Db 806 AACCTAAGAAAGAAAGAAAGAGAGCCGCGCCCTCAGCAAGTGAACCA 861

RESULT 5
 AF106827 1795 bp mRNA linear MAM 14-DEC-1999
 LOCUS Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.
 DEFINITION AF106827
 ACCESSION AF106827
 VERSION AF106827.1 GI:6572518
 KEYWORDS
 SOURCE Canis familiaris.
 ORGANISM Canis familiaris

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 1 (bases 1 to 1795)
 Yang,S. and Sim,G.-K.
 New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules
 JOURNAL Immunogenetics 50 (5-6), 349-353 (1999)
 MEDLINE 20093996
 PUBMED 10630300
 REFERENCE 2 (bases 1 to 1795)
 AUTHORS Yang,S. and Sim,G.-K.
 TITLE Direct Submission
 JOURNAL Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
 source location/Qualifiers
 1..1795
 /organism="Canis familiaris"
 /db_xref="taxon:9615"
 /cell_type="peripheral blood mononuclear cells"
 1..1795
 /gene="CD86"
 1..6
 /gene="CD86"
 7..849
 /gene="CD86"
 /function="counter-receptor for CD28 and CD152 (CTLA4)"
 /note="Lacks transmembrane domain; alternatively spliced"
 /codon_start=1
 /product="truncated B7-2 protein"
 /protein_id="AAFI7298.1"
 /db_xref="GI:6572519"
 /translation="MYLRCTMELNNILFWITLLLYGAASMSQAYFNKGTGELPCFTN
 SONSLDELVEWQDQDKLVLYELRGKENPQVHKKYKGRISFDKNMTLLHNIQI
 KDKGLYOCFVHKGKGLVPMHOMNSDLSVLANFSOPELWTSNRTENGSGIINTCSS
 IOGPEPEKEMFLVKTENSTKYDYVMKSSONNTTELYNVSISFSVPEASNVSTFC
 VLOESMKLPSPVNIETNKKYRKRESEDTKERVYHETERSDEACVNIKSTASGDN
 STGP"
 850..1795
 /gene="CD86"

3' UTR
 BASE COUNT 592 a 366 c 347 g 490 t
 ORIGIN
 Query Match 8.3%; Score 42; DB 4; Length 1795;
 Best Local Similarity 100.0%; Pred. No. 2.8e-11;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 60 TACTAGTATGATCTGATGAGAAATCAATATATGT 101
 Db 546 TACTAGTATGATCTGATGAGAAATCAATATATGT 587

RESULT 6
 PICCD86G 994 bp mRNA linear MAM 17-JUN-1997
 LOCUS Sus scrofa CD86 mRNA, complete cds.
 DEFINITION L76099
 ACCESSION L76099.1 GI:2198558
 VERSION L76099.1
 KEYWORDS T cell costimulation.
 SOURCE Sus scrofa.
 ORGANISM Sus scrofa
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 1 (bases 1 to 994)
 Maher,S.E., Karmann,K., Miu,W., Hughes,C.C., Pober,J.S. and
 Bothwell,A.L.
 Porcine endothelial CD86 is a major costimulator of xenogeneic
 human T cells: cloning, sequencing, and functional expression in
 human endothelial cells
 J. Immunol. 157 (9), 3838-3844 (1996)
 MEDLINE 97047772
 PUBMED 8892613
 COMMENT GSDB:S:74002
 FEATURES location/Qualifiers

* 6454 7168: contig of 715 bp in length
* 7169 7268: gap of 100 bp in length
* 7269 7986: contig of 718 bp in length
* 7987 8086: gap of 100 bp
* 8087 8805: contig of 719 bp in length
* 8806 8905: gap of 100 bp
* 8906 9602: contig of 697 bp in length
* 9603 9702: gap of 100 bp
* 9703 10418: contig of 716 bp in length
* 10419 10518: gap of 100 bp
* 10519 11244: contig of 726 bp in length
* 11245 11344: gap of 100 bp
* 11345 12062: contig of 718 bp in length
* 12063 12162: gap of 100 bp
* 12163 12840: contig of 678 bp in length
* 12841 12940: gap of 100 bp
* 12941 13646: contig of 706 bp in length
* 13647 13746: gap of 100 bp
* 13747 14436: contig of 690 bp in length
* 14437 14536: gap of 100 bp
* 14537 15239: contig of 703 bp in length
* 15240 15339: gap of 100 bp
* 15340 16050: contig of 711 bp in length
* 16051 16150: gap of 100 bp
* 16151 16864: contig of 714 bp in length
* 16865 16964: gap of 100 bp
* 16965 17686: contig of 722 bp in length
* 17687 17786: gap of 100 bp
* 17787 18501: contig of 715 bp in length
* 18502 18601: gap of 100 bp
* 18602 19320: contig of 719 bp in length
* 19321 19420: gap of 100 bp
* 19421 20142: contig of 722 bp in length
* 20143 20242: gap of 100 bp
* 20243 20962: contig of 720 bp in length
* 20963 21062: gap of 100 bp
* 21063 21781: contig of 719 bp in length
* 21782 21881: gap of 100 bp
* 21882 22603: contig of 722 bp in length
* 22604 22703: gap of 100 bp
* 22704 23394: contig of 691 bp in length
* 23395 23494: gap of 100 bp
* 23495 24191: contig of 697 bp in length
* 24192 24291: gap of 100 bp
* 24292 25013: contig of 722 bp in length
* 25014 25113: gap of 100 bp
* 25114 25824: contig of 711 bp in length
* 25825 25924: gap of 100 bp
* 25925 26646: contig of 722 bp in length
* 26647 26746: gap of 100 bp
* 26747 27437: contig of 691 bp in length
* 27438 27537: gap of 100 bp
* 27538 28249: contig of 712 bp in length
* 28250 28349: gap of 100 bp
* 28350 29066: contig of 717 bp in length
* 29067 29166: gap of 100 bp
* 29167 29869: contig of 703 bp in length
* 29870 29969: gap of 100 bp
* 29970 30677: contig of 708 bp in length
* 30678 30777: gap of 100 bp
* 30778 31480: contig of 703 bp in length
* 31481 31580: gap of 100 bp
* 31581 32290: contig of 710 bp in length
* 32291 32390: gap of 100 bp
* 32391 33110: contig of 720 bp in length
* 33111 33210: gap of 100 bp
* 33211 33933: contig of 723 bp in length
* 33934 34033: gap of 100 bp
* 34034 34763: contig of 730 bp in length
* 34764 34863: gap of 100 bp
* 34864 35579: contig of 716 bp in length
* 35580 35679: gap of 100 bp
* 35680 36383: contig of 704 bp in length

* 36384 36483: gap of 100 bp
* 36484 37194: contig of 711 bp in length
* 37195 37294: gap of 100 bp
* 37295 37953: contig of 659 bp in length
* 37954 38053: gap of 100 bp
* 38054 38714: contig of 661 bp in length
* 38715 38814: gap of 100 bp
* 38815 39519: contig of 705 bp in length
* 39520 39619: gap of 100 bp
* 39620 40326: contig of 707 bp in length
* 40327 40426: gap of 100 bp
* 40427 41147: contig of 721 bp in length
* 41148 41247: gap of 100 bp
* 41248 41962: contig of 715 bp in length
* 41963 42062: gap of 100 bp
* 42063 42763: contig of 701 bp in length
* 42764 42863: gap of 100 bp
* 42864 43604: contig of 741 bp in length
* 43605 43704: gap of 100 bp
* 43705 44440: contig of 736 bp in length
* 44441 44540: gap of 100 bp
* 44541 45254: contig of 714 bp in length
* 45255 45354: gap of 100 bp
* 45355 46056: contig of 702 bp in length
* 46057 46156: gap of 100 bp
* 46157 46845: contig of 689 bp in length
* 46846 46945: gap of 100 bp
* 46946 47650: contig of 705 bp in length
* 47651 47750: gap of 100 bp
* 47751 48465: contig of 715 bp in length
* 48466 48565: gap of 100 bp
* 48566 49268: contig of 703 bp in length
* 49269 49368: gap of 100 bp
* 49369 50088: contig of 720 bp in length
* 50089 50188: gap of 100 bp
* 50189 50893: contig of 705 bp in length
* 50894 50993: gap of 100 bp
* 50994 51697: contig of 704 bp in length
* 51698 51797: gap of 100 bp
* 51798 52533: contig of 736 bp in length
* 52534 52633: gap of 100 bp
* 52634 53345: contig of 712 bp in length
* 53346 53445: gap of 100 bp
* 53446 54158: contig of 713 bp in length
* 54159 54258: gap of 100 bp
* 54259 54943: contig of 685 bp in length
* 54944 55043: gap of 100 bp
* 55044 55754: contig of 711 bp in length
* 55755 55854: gap of 100 bp
* 55855 56549: contig of 655 bp in length
* 56550 56649: gap of 100 bp
* 56650 57354: contig of 705 bp in length
* 57355 57454: gap of 100 bp
* 57455 58168: contig of 714 bp in length
* 58169 58268: gap of 100 bp
* 58269 58987: contig of 719 bp in length

Query Match 4.3%; Score 22; DB 2; Length 66325;
Best Local Similarity 100.0%; Pred. No. 1.1;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 333 AAGGAAAGGAGAGAGACAG 354
Db 44264 AAGGAAAGGAGAGAGACAG 44285

RESULT 9
AC090991
LOCUS AC090991 75974 bp DNA linear HTG 22-MAR-2001
DEFINITION Homo sapiens chromosome 15 clone RP11-100A21 map 15, LOW-PASS
SEQUENCE SAMPLING.
ACCESSION AC090991
VERSION AC090991.1 GI:13431041

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:04 ; Search time 140.247 Seconds
(without alignments)
8173.182 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509

Sequence: 1 atacaaggtaccacagaacc.....ggcgacaagaactacacaca 509

Scoring table: OLIGO_NUC

Gapop 60.0 , Gapext 60.0

Searched: 2185239 seqs, 112599159 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

N.Geneseq_101002:*
1: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT:*
2: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
3: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT:*
4: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT:*
5: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT:*
6: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
7: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT:*
8: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT:*
9: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT:*
10: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT:*
11: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT:*
12: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT:*
13: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT:*
14: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT:*
15: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT:*
16: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT:*
17: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT:*
18: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT:*
19: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT:*
20: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT:*
21: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
22: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT:*
23: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT:*
24: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the total score being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	509	100.0	509	AAZ27933	Feline B7-2 protei
2	509	100.0	509	AAZ27934	Feline B7-2 gene (
3	509	100.0	996	AAZ27931	Feline B7-2 protei
4	509	100.0	996	AAZ27932	Complementary stra
5	509	100.0	2830	AAZ27929	Feline B7-2 protei
6	509	100.0	2830	AAZ27930	Feline B7-2 gene c
7	465	91.4	1080	AAZ34638	Feline CD86 (B7-2)
8	465	91.4	1080	AAZ34785	Cat CD86 (B7-2) CD
9	465	91.4	1080	AAZ46840	Feline CD86 coding

10	465	91.4	1080	24	ABK48230	CDNA encoding feli
11	227	44.6	359	20	AAZ27935	Feline B7-2 protei
12	227	44.6	359	20	AAZ27936	Feline B7-2 gene (
13	56	11.0	987	20	AAZ27915	Canine B7-2 protei
14	56	11.0	987	20	AAZ27916	Complementary stra
15	56	11.0	987	20	AAZ27913	Canine B7-2 protei
16	56	11.0	1897	20	AAZ27914	Canine B7-2 gene c
17	42	8.3	840	20	AAZ27923	Canine B7-25 prote
18	42	8.3	840	20	AAZ27924	Complementary stra
19	42	8.3	1795	20	AAZ27921	Canine B7-25 prote
20	42	8.3	1795	20	AAZ27922	Canine B7-25 gene
21	40	7.9	1050	21	AAZ49661	Pig costimulatory
22	21	4.1	505	21	AAZ49661	Drosophila melanog
23	20	3.9	20	20	AAZ27949	Feline B7-2 gene s
24	20	3.9	20	20	AAZ27950	Feline B7-2 gene s
25	19	3.7	341	22	AAH88072	Reperment plant o
26	19	3.7	2463	22	AAH42341	Nucleotide sequenc
27	19	3.7	5819	23	ABH05600	Drosophila melanog
28	19	3.7	6197	24	ABN80257	Human chemically m
29	19	3.7	9050	21	AAF57925	HIV-1 non-subtype
30	18	3.5	21	24	ABK14368	Human B7-2 antigen
31	18	3.5	33	20	AAZ27951	Feline B7-2 gene s
32	18	3.5	98	22	AAE83551	B. gymnotriza sal
33	18	3.5	210	16	AAZ01038	Human B7-2 exon 5.
34	18	3.5	306	21	AAZ49198	Human B lymphocyte
35	18	3.5	306	21	AAZ49198	Human B7-2 constan
36	18	3.5	405	22	AAF65532	Novel human polynu
37	18	3.5	470	24	ABL38441	Human colon tumour
38	18	3.5	481	24	ABK79123	Human B7-2 gene s
39	18	3.5	703	24	ABQ18248	Bacillus clausii g
40	18	3.5	703	24	ABQ18248	Oligonucleotide fo
41	18	3.5	723	23	ABQ18249	Oligonucleotide fo
42	18	3.5	738	24	AAE80293	DNA encoding novel
43	18	3.5	738	22	AAE80293	Human B7-2 extrac
44	18	3.5	822	24	ABN89954	Nucleotide sequenc
45	18	3.5	831	19	AAV03230	Arabidopsis thalia
46	18	3.5	837	15	AAV04396	DNA encoding CD86
47	18	3.5	859	21	AAZ32654	Isotorm Ig11 of th
48	18	3.5	859	21	AAZ32654	Arabidopsis thalia
49	18	3.5	972	24	AAV83208	Arabidopsis thalia
50	18	3.5	972	24	AAZ25510	B7-2 CDNA. Homo s
51	18	3.5	1120	16	AAO81351	Human co-stimulat
52	18	3.5	1120	18	AAZ49181	Human B lymphocyte
53	18	3.5	1120	20	AAV5784	Human B7-2 antigen
54	18	3.5	1120	24	AAZ49181	Human B7-2 antigen
55	18	3.5	1120	24	AAZ49181	Human B lymphocyte
56	18	3.5	1168	21	AAZ27968	Human B7-2 CDNA.
57	18	3.5	1168	21	AAZ27968	Human B7-2 CDNA.
58	18	3.5	1284	23	ABL11655	Arabidopsis thalia
59	18	3.5	1424	21	AAZ29321	Drosophila melanog
60	18	3.5	1424	24	ABK84193	Human B7.2 CDNA.
61	18	3.5	1424	24	ABK84193	Human B7.2 CDNA.
62	18	3.5	1424	24	ABK84193	Human B7.2 CDNA.
63	18	3.5	1428	16	AAQ85873	Stomach cancer rel
64	18	3.5	1502	20	AAZ23222	B70 type B antigen
65	18	3.5	1638	21	AAZ39109	A. thaliana El6 DN
66	18	3.5	1840	21	AAZ44659	Arabidopsis thalia
67	18	3.5	1857	21	AAZ44659	Arabidopsis thalia
68	18	3.5	2205	22	AAH72616	Arabidopsis thalia
69	18	3.5	2876	23	ABL11666	Human cervical can
70	18	3.5	3284	23	ABL11654	Drosophila melanog
71	18	3.5	3722	20	AAV84180	Arabidopsis very l
72	18	3.5	4508	22	ABAI5242	Human nervous syst
73	18	3.5	5643	24	ABK93133	Human prostate spe
74	18	3.5	8781	24	ABL33687	Human immune syste
75	18	3.5	11534	23	ABL03590	Drosophila melanog
76	18	3.5	14147	22	AAZ46743	Tumour suppressor
77	18	3.5	14147	24	ABK33955	Human DNA for stag
78	18	3.5	86080	24	ABO88164	Human osteoblast d
79	18	3.5	86080	24	ABK83561	Human osteoblast d
80	18	3.5	151826	21	AAZ22291	BAC containing rep
81	17	3.3	18	17	AAZ67104	Human B7-2 hairpin
82	17	3.3	171	23	ABV47640	Human prostate exp
	17	3.3	184	22	ABV47226	Human breast cell

CDNA encoding feli
Feline B7-2 protei
Feline B7-2 gene (

C 83	17	3.3	184	22	ABA65111	Human foetal liver
C 84	17	3.3	184	22	ABA32214	Probe #10680 for g
C 85	17	3.3	184	22	AAK39270	Human bone marrow
C 86	17	3.3	184	22	AAI20082	Probe #10015 for g
C 87	17	3.3	184	22	AAI45281	Probe #13967 used
C 88	17	3.3	184	22	AAI05788	Probe #7779 used t
C 89	17	3.3	184	24	ABSI3356	Human genome-deriv
C 90	17	3.3	187	22	AAH70946	Human cervical can
C 91	17	3.3	223	22	AAAS4323	DNA encoding novel
C 92	17	3.3	244	21	AAAC08367	Human secreted pro
C 93	17	3.3	354	22	ABA42072	Human breast cell
C 94	17	3.3	354	22	ABA52494	Probe #750 for gen
C 95	17	3.3	354	22	ABA22284	Human bone marrow
C 96	17	3.3	354	22	AAK26211	Probe #776 for gen
C 97	17	3.3	354	22	AAI10843	Probe #788 used to
C 98	17	3.3	354	22	AAI32102	Probe #758 used to
C 99	17	3.3	354	22	AAI00767	Human genome-deriv
C 100	17	3.3	354	24	ABS00798	

ALIGNMENTS

RESULT 1
AA227933 standard; DNA; 509 BP.

AA227933;
20-DEC-1999 (first entry)

Feline B7-2 protein (larger fragment) encoding DNA.

B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
allergic reaction; infectious disease; tumor development; feline;
graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PSDB; AAY41080.

XX New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 125-126; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.

XX Sequence 509 BP; 170 A; 109 C; 106 G; 124 T; 0 other;

Query Match 100.0%; Score 509; DB 20; Length 509;

Best Local Similarity 100.0%; Pred. No. 1.9e-247;
Matches 509; Conservative 0; Mismatches 0; Indels 0; Caps 0;

QY	1	ATACAAGTTATACCCAGAACCTAAGAGATATTTTACGTAAACACTGAGATTTCACCT	60
Db	1	ATACAAGTTATACCCAGAACCTAAGAGATATTTTACGTAAACACTGAGATTTCACCT	60
QY	61	ACTAAGTATATATCTGTCATGATGAAGAAATCTCAAAATATGTGACAGACGTCAACGTT	120
Db	61	ACTAAGTATATATCTGTCATGATGAAGAAATCTCAAAATATGTGACAGACGTCAACGTT	120
QY	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCCCTG	180
Db	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCCCTG	180
QY	181	AAACTGAGACACTGGAGATGCTGCTCTCCCTACCTTTCATATATGATGACAACTAAG	240
Db	181	AAACTGAGACACTGGAGATGCTGCTCTCCCTACCTTTCATATATGATGACAACTAAG	240
QY	241	GATTAAGACCCCTGACAAAGGCCACTTCTGTGATGCGGCTGACTTGAATGTTGTT	300
Db	241	GATTAAGACCCCTGACAAAGGCCACTTCTGTGATGCGGCTGACTTGAATGTTGTT	300
QY	301	GTTTTTTTGTGGATGGTGTCTTTTAAACACTTAAGCAAGCAAGCAAGCAAGCAAGCA	360
Db	301	GTTTTTTTGTGGATGGTGTCTTTTAAACACTTAAGCAAGCAAGCAAGCAAGCAAGCA	360
QY	361	CCCTCTCATGATGATGTGAACCATCAAAAGGAGAGAAAGAGCAACCAAGCAAGCA	420
Db	361	CCCTCTCATGATGATGTGAACCATCAAAAGGAGAGAAAGAGCAACCAAGCAAGCA	420
QY	421	AGAGTACCATATCCACGCTACCTGAGAGATCTGATGAAGCCAGTGTATTAACATTTTGAAG	480
Db	421	AGAGTACCATATCCACGCTACCTGAGAGATCTGATGAAGCCAGTGTATTAACATTTTGAAG	480
QY	481	ACAGCCTCAGGAGCAAAAGTACTACACA	509
Db	481	ACAGCCTCAGGAGCAAAAGTACTACACA	509

RESULT 2

AA227934/C
AA227934 standard; DNA; 509 BP.

AA227934;

20-DEC-1999 (first entry)

DE Feline B7-2 gene (larger fragment) complementary DNA sequence.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; feline;

KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

XX New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

XX Claim 1; Page 127; 148bp; English.
 PS
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoded by nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthritic and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening.
 CC
 XX Sequence 509 BP; 124 A; 106 C; 109 G; 170 T; 0 other;
 SQ
 Query Match 100.0%; Score 509; DB 20; Length 509;
 Best Local Similarity 100.0%; Pred. No. 1.9e-247;
 Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTTAAGAGATGATTTTCAGCTTAAGACTGGAATTCACACT
 DB 509 ATACAAGGTTACCCAGAACCTTAAGAGATGATTTTCAGCTTAAGACTGGAATTCACACT
 QY 61 ACTAAGTATGATGCTGCTGATGAAGAATCTCAAAATATGTGACAGAACTGTACACGTT
 DB 449 ACTAAGTATGATGCTGCTGATGAAGAATCTCAAAATATGTGACAGAACTGTACACGTT
 QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGGAAGCAGCAATGTGAGGCTTTTGTGCCCTG
 DB 389 TCTATCAGCTTGCTTTTTCAGTCCCTGGAAGCAGCAATGTGAGGCTTTTGTGCCCTG
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCATATATAGTCACAACTAAG
 DB 329 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCATATATAGTCACAACTAAG
 QY 241 GATTAAGACCCGAGAACAGCCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT
 DB 269 GATTAAGACCCGAGAACAGCCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT
 QY 301 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGCCCTGAGC
 DB 209 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGCCCTGAGC
 QY 361 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAG
 DB 149 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAG
 QY 421 AAGAGTACCATACAGCTACCTGAGAGATGATGAAGCCAGTATTAACATTTTGAAG
 DB 89 AAGAGTACCATACAGCTACCTGAGAGATGATGAAGCCAGTATTAACATTTTGAAG
 QY 481 ACAGCCTCAGGCGACAAAAGTACTACACA 509
 DB 29 ACAGCCTCAGGCGACAAAAGTACTACACA 1

RESULT 3
 AA227931
 ID AA227931 standard; DNA; 996 BP.
 XX
 AC AA227931;
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 protein coding sequence.
 XX
 KW B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN W09947558-A2.

XX 23-SEP-1999.
 PD
 XX 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI: 1999-571822/48.
 DR P-PSDB: AAY41079.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 123-124; 148bp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoded by nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthritic and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening.
 CC
 XX Sequence 996 BP; 319 A; 219 C; 203 G; 255 T; 0 other;
 SQ
 Query Match 100.0%; Score 509; DB 20; Length 996;
 Best Local Similarity 100.0%; Pred. No. 1.9e-247;
 Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTTAAGAGATGATTTTCAGCTTAAGACTGGAATTCACACT
 DB 484 ATACAAGGTTACCCAGAACCTTAAGAGATGATTTTCAGCTTAAGACTGGAATTCACACT
 QY 61 ACTAAGTATGATGCTGCTGATGAAGAATCTCAAAATATGTGACAGAACTGTACACGTT
 DB 544 ACTAAGTATGATGCTGCTGATGAAGAATCTCAAAATATGTGACAGAACTGTACACGTT
 QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGGAAGCAGCAATGTGAGGCTTTTGTGCCCTG
 DB 604 TCTATCAGCTTGCTTTTTCAGTCCCTGGAAGCAGCAATGTGAGGCTTTTGTGCCCTG
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCATATATAGTCACAACTAAG
 DB 664 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCATATATAGTCACAACTAAG
 QY 241 GATTAAGACCCGAGAACAGCCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT
 DB 724 GATTAAGACCCGAGAACAGCCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT
 QY 301 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGAGAGAGAGAGAGAG
 DB 784 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGAGAGAGAGAGAG
 QY 361 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAG
 DB 844 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAG
 QY 421 AAGAGTACCATACAGCTACCTGAGAGATGATGAAGCCAGTATTAACATTTTGAAG
 DB 904 AAGAGTACCATACAGCTACCTGAGAGATGATGAAGCCAGTATTAACATTTTGAAG
 QY 481 ACAGCCTCAGGCGACAAAAGTACTACACA 509
 DB 964 ACAGCCTCAGGCGACAAAAGTACTACACA 992

```
RESULT 4
AAZ27932/c
ID AAZ27932 standard; DNA; 996 BP.
XX
XX AAZ27932:
XX
XX 20-DEC-1999 (first entry)
XX
DE Complementary strand of feline B7-2 coding sequence.
XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; feline;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Fells catus.
XX
XX NO9947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99MO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Slim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX
XX Claim 1; Page 124-125; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX
XX Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;
SQ
Query Match 100.0%; Score 509; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 1.9e-247;
Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 ATACAAGGTTACCCAGAACCTAAGAGATGATATTTTCAGCTAAACCTGSAATTCACCT 60
XX
XX 513 ATACAAGGTTACCCAGAACCTAAGAGATGATATTTTCAGCTAAACCTGSAATTCACCT 454
XX
XX 61 ACTAAGTATGATCTGTCATGAGAAGAAATCTCAAAATATGTGACAGAACTGTACAACGTT 120
XX
XX 453 ACTAAGTATGATCTGTCATGAGAAGAAATCTCAAAATATGTGACAGAACTGTACAACGTT 394
XX
XX 121 TCTATCAGCTTGCCCTTTTTCAGTCCCTGAAACACACACAAATGTGAGCGCTTTTGTGCCCTG 180
XX
XX 393 TCTATCAGCTTGCCCTTTTTCAGTCCCTGAAACACACAAATGTGAGCGCTTTTGTGCCCTG 334
XX
XX 181 AAATCTGAGACACTGGAGATGCTGCTCCCTACCTTTCAATATAGTGCACAACCTAAG 240
XX
XX 333 AAATCTGAGACACTGGAGATGCTGCTCCCTACCTTTCAATATAGTGCACAACCTAAG 274
XX
XX 241 GATAAAGACCCCTGAACAGGCACTTCCCTGAGTTGCGGCTGACTTGTAAATGTTTGT 300
XX
XX 273 GATAAAGACCCCTGAACAGGCACTTCCCTGAGTTGCGGCTGACTTGTAAATGTTTGT 214
XX
XX 301 GTTTTGTGAGATGCTGCTTTTAAACAATAAGAAAAAGAAAGAAAGCAAGCCTGGC 360
```

```
DB 213 GTTTTGTGAGATGCTGCTTTTAAACAATAAGAAAAAGAAAGAAAGCAAGCCTGGC 154
XX
XX
XX 361 CCCTCTCATGATGTGGAACCATCAAAAGGGAGAGAAAAAGAGCAACCAACAGCAA 420
XX
XX 153 CCCTCTCATGATGTGGAACCATCAAAAGGGAGAGAAAAAGAGCAACCAACAGCAA 94
XX
XX 421 AGAGTACCATACCTAGCTAGAGATCTGATGAAGCCCACTGTATTACATTTTGAAG 480
XX
XX 93 AGAGTACCATACCTAGCTAGAGATCTGATGAAGCCCACTGTATTACATTTTGAAG 34
XX
XX 481 ACAGCCTCAGGCGACAAAGTACTACACA 509
XX
XX 33 ACAGCCTCAGGCGACAAAGTACTACACA 5
XX
XX
XX RESULT 5
XX AAZ27929
XX ID AAZ27929 standard; DNA; 2830 BP.
XX
XX AAZ27929;
XX
XX 20-DEC-1999 (first entry)
XX
XX Feline B7-2 protein encoding DNA.
XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; feline;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Fells catus.
XX
XX WO9947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99MO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Slim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX P-PSDB; AA41079.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX
XX Claim 1; Page 116-119; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX
XX Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other;
SQ
Query Match 100.0%; Score 509; DB 20; Length 2830;
Best Local Similarity 100.0%; Pred. No. 1.9e-247;
Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 ATACAAGGTTACCCAGAACCTAAGAGATGATATTTTCAGCTAAACCTGSAATTCACCT 60
XX
XX 662 ATACAAGGTTACCCAGAACCTAAGAGATGATATTTTCAGCTAAACCTGSAATTCACCT 721
```

Query Match	100.0%	Score 509	DB 20	Length 2830
Best Local Similarity	100.0%	Pred. No. 1,9e+247		
Matches 509	Conservative 0	Mismatches 0	Indels 0	Gaps 0
QY 1	ATCAAGGTTACCCAGACCTTAGAGATGTAATTTTCAGCTAAACACTGGAATTTAACT	60		
DB 2169	ATCAAGGTTACCCAGACCTTAGAGATGTAATTTTCAGCTAAACACTGGAATTTAACT	2110		
QY 61	ACAAAGATGATGACTGTCATGAGAAATCTCAAAATATGTGACAGACAGTCAACGTT	120		
DB 2109	ACAAAGATGATGACTGTCATGAGAAATCTCAAAATATGTGACAGACAGTCAACGTT	2050		
QY 121	TCTATCAGCTTGGCTTTTTCAGTCCCTGAGACACAAATGTGAGCCGCTTTGTGGCCG	180		
DB 2049	TCTATCAGCTTGGCTTTTTCAGTCCCTGAGACACAAATGTGAGCCGCTTTGTGGCCG	1990		
QY 181	AAACTGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGATGACCAACCTAAG	240		
DB 1989	AAACTGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGATGACCAACCTAAG	1930		
QY 241	GATTAAGACCCCTTAACAAGGCCACTTCTCTGAGATGGGCGCTGACTTGTAAATGTTT	300		
DB 1929	GATTAAGACCCCTTAACAAGGCCACTTCTCTGAGATGGGCGCTGACTTGTAAATGTTT	1870		
QY 301	GTTTGTGTGGATGCTGCTTTTAAACACTTAAGAAAGAAAGAGAGAGAGCCCTGGC	360		
DB 1869	GTTTGTGTGGATGCTGCTTTTAAACACTTAAGAAAGAAAGAGAGAGAGAGCCCTGGC	1810		
QY 361	CCCTCTCATGATGTAAGTAACCACTCAAAAGGAGAGAAAGAGACCAACAGCAACGAA	420		
DB 1809	CCCTCTCATGATGTAAGTAACCACTCAAAAGGAGAGAAAGAGACCAACAGCAACGAA	1750		
QY 421	AGATACCATATACACGCTAGACCTGAGAGATCTGATGAAGCCAGTGTATTAACTTTGAAG	480		
DB 1749	AGATACCATATACACGCTAGACCTGAGAGATCTGATGAAGCCAGTGTATTAACTTTGAAG	1690		
QY 481	ACAGCCTCAGGCGACAAAGTACTACACA	509		
DB 1689	ACAGCCTCAGGCGACAAAGTACTACACA	1661		
RESULT 7				
ID AAZ34838	standard: cDNA; 1080 BP.			
XX AAZ34838:				
AC				
DT 28-FEB-2000	(first entry)			
XX				
DE	Feline CD86 (B7-2) cDNA.			
XX				
KM	CD86; B7-2; feline; cat; recombinant virus; vaccine;			
XX	immunomodulator; tumour; cancer; therapy; ss.			
OS	Felis domesticus.			
XX				
FH	Key	Location/Qualifiers		
FT	CDS	63..1052		
XX		/*tag= a		
PN	W09957295-A1.			
PD	11-NOV-1999.			
XX				
PF	30-APR-1999;	99WD-US09504.		

XX 01-MAY-1998; 98US-0071711.
 PR (SCHE) SCHERING-PLOUGH LTD.
 XX (SCHE) SCHERING-PLOUGH VETERINARY CORP.
 PA
 XX Wmslow BJ, Cochran MD;
 PI
 XX WPI: 2000-062155/05.
 DR P-PSDB: AAY32285.
 DR
 XX

Novel recombinant virus useful as immunomodulators, particularly in
 PT vaccines
 PT
 XX
 PS Disclosure: Fig 3A; 230pp; English.

CC This is the nucleotide sequence of cDNA coding for feline CD86
 CC (B7-2). The cDNA was isolated from feline peripheral blood
 CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
 CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
 CC regulates T cell proliferation and cytokine release. The invention
 CC relates to a recombinant virus that contains at least one foreign
 CC nucleic acid, inserted into a nonessential genomic region, that
 CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
 CC immunogenic fragments, and is expressed when the recombinant virus
 CC is introduced into a suitable host. The invention also provides:
 CC a recombinant virus further comprising a foreign nucleic acid
 CC encoding an immunogen derived from a feline pathogen; recombinant
 CC viruses capable of enhancing an immune response to protect against
 CC disease; recombinant viruses expressing antisense sequences;
 CC capable of suppressing an immune response in a feline, e.g. for
 CC treatment of autoimmune disease or transplant rejection; and
 CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used
 CC to reduce or eliminate a tumour in cats.

XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:

Query Match 91.4%; Score 465; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 3.5e-225;
 Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTACCCAGACCTAGAGATGATTTTACCTAAGACCTAGAAATCAACT 60
 DB 546 ATACAAGTACCCAGACCTAGAGATGATTTTACCTAAGACCTAGAAATCAACT 605
 QY 61 ACTAAGATGATGATGTCATGAGAAATCTCAAAATATATGTCAGACACTGTACAACGTT 120
 DB 606 ACTAAGATGATGATGTCATGAGAAATCTCAAAATATATGTCAGACACTGTACAACGTT 665
 QY 121 TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCGCTG 180
 DB 666 TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCGCTG 725
 QY 181 AAATGAGACACTGGAGATGCTGCTCTCCCTACCTTTCATATATGACAACTAG 240
 DB 726 AAATGAGACACTGGAGATGCTGCTCTCCCTACCTTTCATATATGACAACTAG 785
 QY 241 GATAAAGACCTGTAACAGGCCACTTCTCTGATTTGGCGCTGACTTGTATGTTGTT 300
 DB 786 GATAAAGACCTGTAACAGGCCACTTCTCTGATTTGGCGCTGACTTGTATGTTGTT 845
 QY 301 GTTTTGTGGAGTGTGCTTAAACACTAAGGAAAGGAAAGGAAAGGAAAGGCGCTGGC 360
 DB 846 GTTTTGTGGAGTGTGCTTAAACACTAAGGAAAGGAAAGGAAAGGAAAGGCGCTGGC 905
 QY 361 CCCCTCATGAATGTGAACCATCAAAAAGGAGAGAAAAGAGAGCAACAGACCAACGAA 420
 DB 906 CCCCTCATGAATGTGAACCATCAAAAAGGAGAGAAAAGAGAGCAACAGACCAACGAA 965
 QY 421 AGAGTACCATACACGTAAGAGATCTGATGAAGGCCAGTGT 465
 DB 966 AGAGTACCATACACGTAAGAGATCTGATGAAGGCCAGTGT 1010

RESULT 8
 AA234795
 ID AA234785 standard; cDNA; 1080 BP.
 XX
 AC AA234785;
 XX
 DT 15-FEB-2000 (first entry)
 XX
 DE Cat CD86 (B7-2) cDNA.
 XX
 XX CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
 KW FIV; feline leukaemia virus; feline infectious peritonitis virus;
 KW feline panleukopenia virus; feline calicivirus; feline reovirus-3;
 KW feline rotavirus; feline coronavirus; feline syncytial virus;
 KW feline sarcoma virus; feline herpesvirus; feline Borna disease;
 KW rabies virus; chlamydia; toxoplasmosis gondii; Dirofilaria immitis;
 KW parasite; autoimmune disease; transplant rejection; therapy; ss.
 KW
 XX Fells domesticus.
 XX
 OS
 XX
 FH Key Location/Qualifiers
 FT 63..1055
 FT CDS /*tag= a
 FT
 XX
 PN MO9957271-A2.
 XX
 PD 11-NOV-1999.
 XX
 PE 30-APR-1999; 99WO-US09502.
 PR
 XX 01-MAY-1998; 98US-0071699.
 XX
 PA (TEXA) TEXAS A & M SYSTEM.
 XX
 XX
 PI Collision EW, Hash SM, Choi I;
 XX
 DR WPI: 2000-052972/04.
 DR P-PSDB: AAY32278.
 XX
 PT Novel feline proteins used to produce feline vaccines which prevent
 PT infectious disease or to promote growth in homologous or heterologous
 PT species -
 PS
 PS Claim 6; Fig 3A; 186pp; English.

This is the nucleotide sequence of cDNA encoding feline CD86
 CC (B7-2) ligand (see AAY32278). It was obtained following RT-PCR of
 CC peripheral blood mononuclear cell mRNA and RACE-PCR. A vector
 CC comprising nucleic acid encoding feline CD86 ligand or feline
 CC soluble CD80 ligand is designated PST-2#19-2/011298 (ATCC 209821).
 CC The coexpression of CD86 with the costimulatory molecules CD28 (see
 CC AAY32279) and a tumour antigen or an antigen from a pathogenic
 CC organism has the ability to activate or enhance activation of
 CC T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has
 CC the ability to regulate activation of T-lymphocytes. The invention
 CC provides isolated nucleic acids encoding feline CD86 ligand,
 CC feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4
 CC (CD152) receptor, as well as vectors comprising the nucleic acids,
 CC and polypeptides encoded by the nucleic acids. It also provides
 CC vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and
 CC further comprising immunogens derived from pathogens, especially
 CC feline immunodeficiency virus (FIV), feline leukaemia virus,
 CC feline infectious peritonitis virus, feline panleukopenia virus,
 CC feline calicivirus, feline reovirus-3, feline rotavirus, feline
 CC coronavirus, feline syncytial virus, feline sarcoma virus, feline
 CC herpesvirus, feline Borna disease virus, rabies virus, chlamydia,
 CC Toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial
 CC pathogen, or parasite (all claimed). Vaccines capable of
 CC enhancing an immune response, and vaccines capable of suppressing
 CC an immune response (suitable for treating an autoimmune disease
 CC or tissue or organ transplant rejection) are claimed. The
 CC nucleic acids may be used for gene therapy or antisense therapy

CC protocols.

XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

SQ Query Match 91.4%; Score 465; DB 21; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3.5e-225;
Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTAACCCAGAACCTAAGAGATGATATTTTCAGCTAAACACTGAGAAATTCACCT 60
DB 546 ATACAGGTTAACCCAGAACCTAAGAGATGATATTTTCAGCTAAACACTGAGAAATTCACCT 605
QY 61 ACTAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 120
DB 606 ACTAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 665
QY 121 TCTATCAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 180
DB 666 TCTATCAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 725
QY 181 AAACGTGAGACACTGAGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 240
DB 726 AAACGTGAGACACTGAGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 785
QY 241 GATAAAGACCTGAG 300
DB 786 GATAAAGACCTGAG 845
QY 301 GTTTTGTGGGATGATGCTGCTTAAACACTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 360
DB 846 GTTTTGTGGGATGATGCTGCTTAAACACTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 905
QY 361 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 420
DB 906 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 965
QY 421 AGATGACCATACACGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 465
DB 966 AGATGACCATACACGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1010

RESULT 9
ID AAL46840 standard; cDNA; 1080 BP.
XX
AC AAL46840;
XX
DT 08-AUG-2002 (first entry)
XX
DE Feline CD86 coding sequence.
XX
KW Cat; CD28; CD80; CTLA-4; CD86; immunogen; vaccine; viral infection;
KW Feline immunodeficiency disease; feline infectious peritonitis;
KW Feline leukemia virus; cancer; degenerative disease; autoimmune disease;
KW virucide; immunomodulator; cytostatic; immunodeficiency; gene; ss.
XX
OS Felis catus.
XX
PN US2002051792-A1.
XX
PD 02-MAY-2002.
XX
PF 30-APR-1999; 99US-0303040.
XX
PR 01-MAY-1998; 98US-083870P.
XX
PA (WINS/) WINSLOW B J.
PA (COCH/) COCHRAN M D.
XX
XX WINSLOW BJ, COCHRAN MD;
XX
PI
XX
DR WPI; 2002-415200/44.
DR P-PDB; AAO17734.

XX
PT New recombinant virus, useful for immunizing felines to prevent or
PT treat feline immunodeficiency virus, comprises foreign nucleic acid
PT encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
PT CD86 or CTLA-4.
XX
XX Disclosure; Fig 3; 77pp; English.

CC The present invention relates to a recombinant virus comprising at least
CC one foreign nucleic acid encoding a protein selected from feline
CC cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
CC which is capable of expression when the virus is introduced into an
CC appropriate host. The virus can be administered to the feline in order to
CC elicit or enhance an immune response to prevent or treat feline
CC immunodeficiency disease, feline leukemia, feline infectious peritonitis,
CC cancers, degenerative and autoimmune diseases and immunodeficiency. The
CC present sequence is the coding sequence of a cytotoxic T lymphocyte
CC accessory molecule described in the exemplification of the invention.

SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 91.4%; Score 465; DB 24; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3.5e-225;
Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTAACCCAGAACCTAAGAGATGATATTTTCAGCTAAACACTGAGAAATTCACCT 60
DB 546 ATACAGGTTAACCCAGAACCTAAGAGATGATATTTTCAGCTAAACACTGAGAAATTCACCT 605
QY 61 ACTAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 120
DB 606 ACTAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 665
QY 121 TCTATCAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 180
DB 666 TCTATCAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 725
QY 181 AAACGTGAGACACTGAGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 240
DB 726 AAACGTGAGACACTGAGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 785
QY 241 GATAAAGACCTGAG 300
DB 786 GATAAAGACCTGAG 845
QY 301 GTTTTGTGGGATGATGCTGCTTAAACACTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 360
DB 846 GTTTTGTGGGATGATGCTGCTTAAACACTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 905
QY 361 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 420
DB 906 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 965
QY 421 AGATGACCATACACGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 465
DB 966 AGATGACCATACACGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1010

RESULT 10
ID ABK48230 standard; cDNA; 1080 BP.
XX
XX ABK48230;
XX

DT 02-JUL-2002 (first entry)

DE cDNA encoding feline CD86 protein.

XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
KW feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
KW organ transplant; toxoplasmosis gondii; flea; parasite; parvovirus; panleukopenia;
KW feline leukemia; Felv; calicivirus; rotavirus; reovirus type 3;

KM coronavirus; herpes; borna disease.
 XX
 OS Felis sp.
 XX
 FH Key Location/Qualifiers
 FT CDS 63..1052 /*tag= a
 FT /product= "CD86 protein"
 XX
 PN US2002028208-A1.
 XX
 PD 07-MAR-2002.
 XX
 PF 30-APR-1999; 99US-0303510.
 XX
 PR 01-MAY-1998; 98US-083869P.
 XX
 PA (COLL/) COLLISSON E W.
 PA (HASH/) HASH S M.
 PA (CHOI/) CHOI I.
 XX
 PI Collisson EM, Hash SM, Choi I;
 XX
 DR WPI; 2002-315045/35.
 DR P-PSDB; AA078121.
 XX
 PT Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
 PT receptor or CTLA-4 receptor as vaccine for inducing immune response in
 PT feline suffering from autoimmune disease or tissue or organ transplant
 PT
 XX
 PS Claim 6; Fig 3A; 73pp; English.
 XX
 CC This invention relates to the DNA and protein sequences encoding a
 CC soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
 CC CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
 CC invention also relates to a vaccine comprising an effective amount of
 CC these receptor proteins. A vaccine is useful for inducing immunity or
 CC enhancing an immune response in a cat. The protein sequences of the
 CC invention are useful for suppressing an immune response in a feline
 CC suffering from an autoimmune disease or the recipient of a tissue or
 CC organ transplant. A vector containing the DNA sequences of the
 CC invention is useful for redirecting an immune response in a feline to an
 CC immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
 CC feline immunodeficiency virus, feline leukaemia (FeLV), feline
 CC infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
 CC reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,
 CC sarcoma virus, borna disease virus or a parasite. The protein sequences
 CC may be further utilised to promote growth in homologous or heterologous
 CC feline species. Enhancement of immunity through the interaction of an
 CC soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
 CC immune response through the interaction of feline CD80 or CD86 with
 CC CTLA-4 takes advantage of the natural process of regulation rather than
 CC adding foreign substances that could have multiple, even detrimental
 CC effects on overall or long term health. The present sequence represents
 CC a cDNA encoding the feline CD86 protein of the invention.
 XX
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 XX
 Query Match 91.4%; Score 465; DB 24; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 3.5e-225;
 Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 666 TCTATCAGCTTCCTTTTTCAGTCCCTGAGCACAATGTCAGGCTTTTGTCCCTG 725
 Qy 181 AAACGTGAGACACTGGAGATGCTGCTCCCTACCTTCATATGATGACAACTTAG 240
 Db 726 AAACGTGAGACACTGGAGATGCTGCTCCCTACCTTCATATGATGACAACTTAG 785
 Qy 241 GATTAAGACCCCTGAGCAAGGACCTTCCTGATGCGGCTGACCTTGTATGTTTGT 300
 Db 786 GATTAAGACCCCTGAGCAAGGACCTTCCTGATGCGGCTGACCTTGTATGTTTGT 845
 Qy 301 GTTTTGTGATGATGCTGCTTTTAAACACTAGGAAAAGGACAGACAGCTTGGC 360
 Db 846 GTTTTGTGATGATGCTGCTTTTAAACACTAGGAAAAGGACAGACAGCTTGGC 905
 Qy 361 CCTCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 420
 Db 906 CCTCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 965
 Qy 421 AGAGTACATACACACATGATGATGATGATGATGATGATGATGATGATGATGAT 465
 Db 966 AGAGTACATACACACATGATGATGATGATGATGATGATGATGATGATGATGAT 1010
 RESULT 11
 AA227935
 ID AA227935 standard; DNA; 359 BP.
 AC AA227935;
 XX 20-DEC-1999 (first entry)
 DE Feline B7-2 protein (smaller fragment) encoding DNA.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9947558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99MO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI; 1999-571822/48.
 DR P-PSDB; AAY41081.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 SQ Claim 1; Page 127-128; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 Query Match 44.6%; Score 227; DB 20; Length 359;

XX		WO9947558-A2.
PN		
XX	PD	23-SEP-1999.
XX		
PF		19-MAR-1999; 99WO-US06187.
XX		
PR		19-MAR-1998; 98US-0078765.
XX		17-APR-1998; 98US-0062597.
PA		(HESK-) HESKA CORP.
XX		
PI		Sim G, Yang S, Sellins KS;
XX		
DR		WPI: 1999-571822/48.
XX		P-PsDB: AA41076.
XX		
PT		New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX		treating, e.g., autoimmune and atopic diseases
PS		
XX		Claim 1; Page 97-99; 148pp; English.
CC		The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC		encoding nucleic acid molecules from dogs and cats. The proteins can be
CC		expressed by standard recombinant methodology. The nucleic acid molecules
CC		and the encoded proteins can be used for preventing or treating diseases,
CC		e.g., autoimmune diseases, allergic reactions, infectious diseases, tumor
CC		development, graft rejection, inflammation, arthritic and atopic diseases
CC		such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC		cats, cattle, sheep or pets. The products can also be used for detection,
CC		diagnosis and drug screening.
SQ		Sequence 1897 BP; 585 A; 400 C; 383 G; 529 T; 0 other:
	Query Match	11.0%; Score 56; DB 20; Length 1897;
	Best Local Similarity	100.0%; Pred. No. 3.5e-18;
	Matches 56; Conservative	0; Mismatches 0; Indels 0; Gaps 0.
OY	327 AACACTAAGAAAGAAGAGACGCTGGCCCCCTTCATGAATGTGAACCA 382	
D6	806 AACACTAAGAAAGAAGAGACGCTGGCCCCCTTCATGAATGTGAACCA 861	
	RESULT 16	
	AAZ27914/C	
ID	AAZ27914 standard; DNA; 1897 BP.	
XX		
AC	AAZ27914;	
XX		
DT	20-DEC-1999 (first entry)	
XX		
XX		Canine B7-2 gene complementary DNA sequence.
B7	CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;	
KW	allergic reaction; infectious disease; tumor development; canine;	
KW	graft rejection; inflammation; arthritis; atopic dermatitis; ss.	
OS	Canis familiaris.	
XX		
FN	WO9947558-A2.	
XX		
PD	23-SEP-1999.	
XX		
PF	19-MAR-1999; 99WO-US06187.	
XX		
PR	19-MAR-1998; 98US-0078765.	
XX	17-APR-1998; 98US-0062597.	
FA	(HESK-) HESKA CORP.	
XX		
PI	Sim G, Yang S, Sellins KS;	
XX		
WPI	1999-571822/48	

XX	Sequence	840 BP;	278 A;	181 C;	167 G;	214 T;	0 other;	
SO	Query Match	8.3%;	Score 42;	DB 20;	Length 840;			
	Best Local Similarity	100.0%;	Pred. No. 4.3e-11;					
	Matches 42:	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;			
OY	60	TACTAGTATGATCTACTGTCATGAGAAATCTCAAAATATGCT	101					
DB	540	TACTAGTATGATCTACTGTCATGAGAAATCTCAAAATATGCT	581					
RESULT 18								
AAZ27924/C								
ID	AAZ27924	standard;	DNA;	840 BP.				
XX	AAZ27924;							
AC	AAZ27924;							
XX	20-DEC-1999	(first entry)						
DT								
XX								
DE	Complementary strand of canine B7-2S coding sequence.							
XX								
KW	B7, CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;							
KW	allergic reaction; infectious disease; tumor development; canine;							
XX	graft rejection; inflammation; arthritis; atopic dermatitis; ss.							
OS	Canis familiaris.							
XX								
PN	W09947558-A2.							
XX								
PD	23-SEP-1999.							
XX								
PF	19-MAR-1999;	99WO-US06187.						
XX								
PR	19-MAR-1998;	98US-0078765.						
PR	17-APR-1998;	98US-0062597.						
XX								
PA	(HESK-) HESKA CORP.							
XX								
PI	Slm G, Yang S, Sellins KS;							
DR								
XX	WPI: 1999-571822/48.							
PT								
XX	New isolated B7 and CTLA4 nucleic acids, used to develop products for							
XX	treating, e.g. autoimmune and atopic diseases							
PS	Claim 1; Page 115; 148pp; English.							
XX								
CC	The invention provides B7 and CTLA4 (T cell costimulatory proteins)							
CC	encoding nucleic acid molecules from dogs and cats. The proteins can be							
CC	expressed by standard recombinant methodology. The nucleic acid molecules							
CC	and the encoded proteins can be used for preventing or treating diseases,							
CC	e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor							
CC	development, graft rejection, inflammation, arthritis and atopic diseases							
CC	such as atopic dermatitis. They can be used in mammals such humans, dogs,							
CC	cats, cattle, sheep or pets. The products can also be used for detection,							
CC	diagnosis and drug screening.							
XX								
SO	Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;							
	Query Match	8.3%;	Score 42;	DB 20;	Length 840;			
	Best Local Similarity	100.0%;	Pred. No. 4.3e-11;					
	Matches 42:	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;			
OY	60	TACTAGTATGATCTACTGTCATGAGAAATCTCAAAATATGCT	101					
DB	301	TACTAGTATGATCTACTGTCATGAGAAATCTCAAAATATGCT	260					
RESULT 19								
AAZ27921								
ID	AAZ27921	standard;	DNA;	1795 BP.				
XX								

```

AC AA227921;
XX
XX 20-DEC-1999 (first entry)
DT
XX
XX Canine B7-2S protein encoding DNA.
DE
XX
XX B7, CTLA4, T cell costimulatory protein; dog; cat; autoimmune disease;
KM allergic reaction; infectious disease; tumor development; canine;
KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
OS
XX
XX WO9947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI: 1999-571822/48.
XX P-PSDB; AAY41078.
DR
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 109-111; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
XX Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;
SQ
Query Match 8.3%; Score 42; DB 20; Length 1795;
Best Local Similarity 100.0%; Pred. No. 4.3e-11;
Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
DB 546 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 587

```

```

XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI: 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 112-114; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
XX Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other;
SQ
Query Match 8.3%; Score 42; DB 20; Length 1795;
Best Local Similarity 100.0%; Pred. No. 4.3e-11;
Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
DB 1250 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 1209

```

```

RESULT 21
ID AAA49661
XX AAA49661 standard; cDNA; 1050 BP.
XX
XX AAA49661;
XX
XX 25-SEP-2000 (first entry)
XX
XX Pig costimulatory molecule CD86 (B7-2) cDNA.
DE
XX
XX Co-stimulatory molecule; CD86; B7-2; pig; immunosuppressive;
KM xerotransplantation; organ transplant; vaccine; ss.
XX
XX Sus scrofa.
XX
XX FH Location/Qualifiers
XX FT 36..1013
XX FT /*tag= a
XX
XX WO200037102-A2.
XX
XX 29-JUN-2000.
XX
XX 17-DEC-1999; 99WO-GB04200.
XX
XX 19-DEC-1998; 98GB-0027921.
XX 23-OCT-1999; 99GB-0025015.
XX
XX (MLML-) ML LAB PLC.
XX
XX Lechler RI, Rogers NJ, Dörfling A;
XX
XX WPI: 2000-442537/38.
XX P-PSDB; AAY95321.
XX

```

PT Identifying compounds that alter vigilance, involves contacting
PT invertebrate with candidate compound, evaluating vigilance properly in
PT invertebrate, and determining if the compound alters vigilance in
PT invertebrate -

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases.

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX

SQ Sequence 20 BP; 8 A; 6 C; 3 G; 3 T; 0 other;

Query Match 3.9%; Score 20; DB 20; Length 20;
 Best Local Similarity 100.0%; Pred. No. 5.5;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 ATACAGGTTACCCAGACC 20
 ||||||||||||||||
 Db 1 ATACAGGTTACCCAGACC 20

RESULT 24

AA227950/c
 ID AA227950 standard; DNA; 20 BP.

AC AA227950;

DT 20-DEC-1999 (first entry)

XX Feline B7-2 gene specific antisense primer.

DE B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; PCR primer;
 KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Synthetic.

OS Fells catus.

XX WO9947558-A2.

PN 23-SEP-1999.

PD 19-MAR-1999; 99WO-US06187.

PF 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

XX Slim G, Yang S, Sellins KS;

PI WPI; 1999-571822/48.

DR New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating; e.g. autoimmune and atopic diseases

PT Example 6; Page 62; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX

SQ Sequence 20 BP; 2 A; 4 C; 5 G; 9 T; 0 other;

Query Match 3.9%; Score 20; DB 20; Length 20;
 Best Local Similarity 100.0%; Pred. No. 5.5;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 45 CGACAAAGTACTACACA 509
 ||||||||||||||||
 Db 20 CGACAAAGTACTACACA 1

RESULT 25

AAH8072
 ID AAH8072 standard; cDNA; 341 BP.

XX AAH8072;

AC 25-SEP-2001 (first entry)

DE Peppermint plant oil gland expressed cDNA 428.

XX Peppermint; plant oil gland cell; terpenoid essential oil; resin;
 KW genetic mapping; antisense suppression; recombinant expression; ss.

XX Mentha x piperita.

OS WO200153319-A1.

PN 26-JUL-2001.

PD 19-JAN-2001; 2001WO-US02567.

PF 20-JAN-2000; 2000US-0177264.

PR (CROT/) CROTEAU R B.

XX (LANG/) LANGE B M.

PA (WILD/) WILDUNG M R.

XX Croteau RB, Lange BM, Wildung MR;

PI WPI; 2001-488706/53.

DR New nucleic acid molecules corresponding to mRNA molecules expressed in
 XX peppermint oil glands for enhancing expression of plant oil gland cell
 PT proteins

PS Claim 1; Page 233; 251pp; English.

XX The invention relates to nucleic acid molecules (AAH87645-AAH88116) that
 CC correspond to all or part of a mRNA molecule expressed in plant oil
 CC gland cells, especially peppermint and plant oil glands that produce
 CC terpenoid essential oils and resins. The nucleic acids are useful for
 CC genetically mapping a plant genome for genes expressed in plant oil
 CC gland cells and to suppress (for example by antisense suppression) or
 CC enhance their expression (for example by genetically transforming a
 CC plant cell with a replicable expression vector that expresses one or more
 CC proteins naturally expressed in plant oil gland cells). The nucleic acids
 CC are also useful for recombinant expression of plant oil gland proteins
 CC and/or yeast cells.
 CC

SQ Sequence 341 BP; 117 A; 68 C; 62 G; 94 T; 0 other;

Query Match 3.7%; Score 19; DB 22; Length 341;
 Best Local Similarity 100.0%; Pred. No. 18;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 333 AAGCAAAAGAGAGAGAG 351
 ||||||||||||||||
 Db 66 AAGCAAAAGAGAGAGAG 84

RESULT 26

AAH42341
 ID AAH42341 standard; DNA; 2463 BP.

AC AAH42341;

DT 17-SEP-2001 (first entry)

DE Nucleotide sequence of a rat xylosyltransferase (XT) isoform XT-I.
 XX

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 67.0209 Seconds
(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509
Sequence: 1 atacaaggttaccaggaacc.....ggcgacaagaactacacaca 509

Scoring table: OLIGO NWC
Gapop 60.0 , Gapext 60.0

Searched: 709620 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-Processing: Listing first 100 summaries

Database :

Published Applications_NA.*
1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
2: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUB.seq:*
3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
6: /cgn2_6/ptodata/2/pubpna/PC1US_PUBCOMB.seq:*
7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
8: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
10: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	465	91.4	1080	10 US-09-303-510-5	Sequence 5, App11
2	465	91.4	1080	10 US-09-303-600-5	Sequence 5, App11
3	21	4.1	505	10 US-09-733-040-5	Sequence 4, App11
4	20	3.9	639	10 US-09-878-574-4316	Sequence 4, App11
5	18	3.5	210	9 US-09-962-969-31	Sequence 4316, Ap
6	18	3.5	210	10 US-09-837-867A-31	Sequence 31, App1
7	18	3.5	467	9 US-10-046-935-2030	Sequence 2030, Ap
8	18	3.5	467	9 US-09-878-178-2030	Sequence 2030, Ap
9	18	3.5	467	9 US-10-146-502-2030	Sequence 2030, Ap
10	18	3.5	481	10 US-09-974-300-6414	Sequence 6414, Ap
11	18	3.5	751	9 US-10-105-200A-34	Sequence 34, App1
12	18	3.5	814	9 US-10-001-857-5	Sequence 5, App11
13	18	3.5	822	10 US-09-770-445-722	Sequence 722, App
14	18	3.5	831	10 US-09-845-899A-4	Sequence 4, App11
15	18	3.5	972	9 US-09-826-025-11	Sequence 11, App1
16	18	3.5	1002	9 US-10-105-200A-33	Sequence 33, App1
17	18	3.5	1039	10 US-09-880-192-25	Sequence 25, App1
18	18	3.5	1056	10 US-09-756-983-17	Sequence 17, App1
19	18	3.5	1112	9 US-09-441-411-25	Sequence 25, App1

20	18	3.5	1120	8 US-08-592-711-3	Sequence 3, App11
21	18	3.5	1120	9 US-09-962-969-22	Sequence 22, App1
22	18	3.5	1120	10 US-09-837-867A-22	Sequence 22, App1
23	18	3.5	1161	10 US-09-962-969-24	Sequence 24, App1
24	18	3.5	1161	10 US-09-837-867A-24	Sequence 24, App1
25	18	3.5	1424	9 US-09-954-531-366	Sequence 366, App
26	18	3.5	1424	9 US-09-441-411-21	Sequence 21, App1
27	18	3.5	1424	10 US-09-962-969-556	Sequence 556, App
28	18	3.5	1491	10 US-09-892-325-3	Sequence 3, App11
29	18	3.5	1494	9 US-09-938-842A-569	Sequence 569, App
30	18	3.5	1502	10 US-09-883-797-1	Sequence 11, App1
31	18	3.5	1807	10 US-09-892-325-2	Sequence 2, App11
32	18	3.5	2508	9 US-09-938-842A-2036	Sequence 2036, Ap
33	18	3.5	3722	10 US-09-882-325-1	Sequence 1, App11
34	18	3.5	45839	12 US-10-025-187-3	Sequence 3, App11
35	18	3.5	153	10 US-09-878-574-7526	Sequence 7526, Ap
36	18	3.3	184	10 US-09-864-761-17534	Sequence 17534, A
37	18	3.3	271	10 US-09-878-574-8204	Sequence 8204, Ap
38	18	3.3	275	10 US-09-878-574-12123	Sequence 12123, A
39	18	3.3	354	10 US-09-864-761-1750	Sequence 750, App
40	18	3.3	364	10 US-09-864-761-3828	Sequence 3828, Ap
41	18	3.3	366	9 US-10-015-219-792	Sequence 792, App
42	18	3.3	366	10 US-09-777-564-792	Sequence 792, App
43	18	3.3	387	10 US-10-108-605-110	Sequence 110, App
44	18	3.3	394	10 US-09-960-352-849	Sequence 849, App
45	18	3.3	406	10 US-09-878-574-2459	Sequence 2459, App
46	18	3.3	417	9 US-09-918-995-34307	Sequence 34307, A
47	18	3.3	449	9 US-09-918-995-14537	Sequence 14537, A
48	18	3.3	488	9 US-09-918-995-34571	Sequence 34571, A
49	18	3.3	506	9 US-10-001-873-21	Sequence 21, App1
50	18	3.3	583	10 US-09-864-761-13635	Sequence 13635, A
51	18	3.3	588	10 US-09-864-761-9023	Sequence 25671, A
52	18	3.3	588	10 US-09-864-761-9023	Sequence 25671, A
53	18	3.3	852	9 US-09-989-920-162	Sequence 162, App
54	18	3.3	948	9 US-09-968-4368-3	Sequence 3, App11
55	18	3.3	1269	9 US-10-169-048-61	Sequence 61, App1
56	18	3.3	1902	9 US-09-938-842A-1750	Sequence 1750, App
57	18	3.3	2000	9 US-09-938-842A-4872	Sequence 4872, Ap
58	18	3.3	2149	9 US-09-969-384-5	Sequence 5, App11
59	18	3.3	2404	9 US-10-102-806-257	Sequence 257, App
60	18	3.3	2780	9 US-09-968-4368-1	Sequence 1, App11
61	18	3.3	2812	12 US-10-002-600-103	Sequence 103, App
62	18	3.3	3598	10 US-09-925-301-170	Sequence 170, App1
63	18	3.3	3931	10 US-09-983-531A-5	Sequence 5, App1
64	18	3.3	15772	10 US-09-764-903-66	Sequence 66, App1
65	18	3.3	24023	9 US-10-094-679-1	Sequence 1, App11
66	18	3.3	29629	12 US-10-135-689-3	Sequence 3, App11
67	18	3.3	81001	9 US-09-842-364-1	Sequence 1, App11
68	18	3.3	81001	10 US-09-751-877-1	Sequence 1, App11
69	18	3.1	156	10 US-09-867-701-8656	Sequence 8656, Ap
70	18	3.1	158	10 US-09-867-701-8889	Sequence 8889, Ap
71	18	3.1	171	10 US-09-867-701-9325	Sequence 9325, Ap
72	18	3.1	182	10 US-09-867-701-9418	Sequence 9418, Ap
73	18	3.1	196	10 US-09-867-701-8822	Sequence 8822, Ap
74	18	3.1	212	10 US-09-867-701-9225	Sequence 9225, Ap
75	18	3.1	212	10 US-09-867-701-9278	Sequence 9278, Ap
76	18	3.1	218	10 US-09-864-761-23306	Sequence 23306, A
77	18	3.1	220	10 US-09-867-701-9243	Sequence 9243, Ap
78	18	3.1	235	10 US-09-867-701-1050	Sequence 1050, Ap
79	18	3.1	251	10 US-09-878-574-5600	Sequence 5600, Ap
80	18	3.1	254	10 US-09-960-352-1123	Sequence 1123, Ap
81	18	3.1	263	10 US-09-960-352-8695	Sequence 8695, Ap
82	18	3.1	265	10 US-09-983-965-3743	Sequence 3743, Ap
83	18	3.1	293	10 US-09-764-877-3814	Sequence 3814, Ap
84	18	3.1	317	9 US-09-854-133-17	Sequence 17, App1
85	18	3.1	317	9 US-09-738-975-17	Sequence 17, App1
86	18	3.1	322	9 US-09-232-885-254	Sequence 254, App
87	18	3.1	336	10 US-09-783-590-6964	Sequence 6964, App
88	18	3.1	336	9 US-10-060-036-4341	Sequence 4341, App
89	18	3.1	358	10 US-09-960-352-1137	Sequence 1137, App
90	18	3.1	370	10 US-09-983-965-2242	Sequence 2242, App
91	18	3.1	372	10 US-09-960-352-12437	Sequence 12437, A
92	18	3.1	373	10 US-09-878-574-2564	Sequence 2564, App

93 16 3.1 393 10 US-09-878-574-43 Sequence 43, Appl
94 16 3.1 405 10 US-09-960-352-6079 Sequence 6079, Ap
95 16 3.1 412 10 US-09-878-574-3125 Sequence 3125, Ap
96 16 3.1 415 10 US-09-960-352-7603 Sequence 7603, Ap
97 16 3.1 416 10 US-09-960-352-4477 Sequence 4477, Ap
98 16 3.1 425 9 US-09-918-995-35000 Sequence 35000, A
99 16 3.1 432 9 US-10-092-154-1353 Sequence 1353, Ap
c 100 16 3.1 432 10 US-09-764-847-1353 Sequence 1353, Ap

ALIGNMENTS

RESULT 1
US-09-303-510-5
; Sequence 5, Application US/09303510A
; Patent No. US20020028208A1
; GENERAL INFORMATION:
; APPLICANT: Hash, Stephen M.
; APPLICANT: Collins, Ellen W.
; APPLICANT: Choi, Insoo
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
; TITLE OF INVENTION: CTLA-4 Nucleic Acid and Polypeptides
; FILE REFERENCE: 54954
; CURRENT APPLICATION NUMBER: US/09/303,510A
; EARLIER FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083,869
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 83
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: Feline
US-09-303-510-5

Query Match 91.4%; Score 465; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 5.1e-247;
Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACCT 60
DB 546 ATACAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACCT 605
QY 61 ACTAAGTATGATCTGATGATGAAGAATCTCAAAATATGATGACAGAACTGTACAACTT 120
DB 606 ACTAAGTATGATCTGATGATGAAGAATCTCAAAATATGATGACAGAACTGTACAACTT 665
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 180
DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 725
QY 181 AAATGAGACACTGAGATGCTCTCTCCCTCAATATAGATGACAAACCTAAG 240
DB 726 AAATGAGACACTGAGATGCTCTCTCCCTCAATATAGATGACAAACCTAAG 785
QY 241 GATAAAGACCTGGAACAGGCACTTCTGTGATTCGCGCTGTACTTGTATGTTTGT 300
DB 786 GATAAAGACCTGGAACAGGCACTTCTGTGATTCGCGCTGTACTTGTATGTTTGT 845
QY 301 GTTTTGTGGGATGTTGTCCTTTTAAACACTAAGAAAGAAAGAAAGAACGCTGGC 360
DB 846 GTTTTGTGGGATGTTGTCCTTTTAAACACTAAGAAAGAAAGAAAGAACGCTGGC 905
QY 361 CCTCTCATGATGTGAACCATTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 420
DB 906 CCTCTCATGATGTGAACCATTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 965
QY 421 AGAGTACCATACAGTACCTGAGAGATGATGATGAGAGAGAGAGAGAGAGAGAGAGAG 465
DB 966 AGAGTACCATACAGTACCTGAGAGATGATGATGAGAGAGAGAGAGAGAGAGAGAGAG 1010

RESULT 2
US-09-303-040-5
; Sequence 5, Application US/09303040
; Patent No. US20020051792A1
; GENERAL INFORMATION:
; APPLICANT: Winslow, Barbara J.
; APPLICANT: Cochran, Mark D.
; TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, Feline CTLA-4 or
; TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof
; FILE REFERENCE: 54957-B
; CURRENT APPLICATION NUMBER: US/09/303,040
; EARLIER FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083,870
; NUMBER OF SEQ ID NOS: 82
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: feline CD86
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (63)..(1052)
US-09-303-040-5

Query Match 91.4%; Score 465; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 5.1e-247;
Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACCT 60
DB 546 ATACAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTAAACACTGAGAAATTCACCT 605
QY 61 ACTAAGTATGATCTGATGATGAAGAATCTCAAAATATGATGACAGAACTGTACAACTT 120
DB 606 ACTAAGTATGATCTGATGATGAAGAATCTCAAAATATGATGACAGAACTGTACAACTT 665
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 180
DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 725
QY 181 AAATGAGACACTGAGATGCTCTCTCCCTCAATATAGATGACAAACCTAAG 240
DB 726 AAATGAGACACTGAGATGCTCTCTCCCTCAATATAGATGACAAACCTAAG 785
QY 241 GATAAAGACCTGGAACAGGCACTTCTGTGATTCGCGCTGTACTTGTATGTTTGT 300
DB 786 GATAAAGACCTGGAACAGGCACTTCTGTGATTCGCGCTGTACTTGTATGTTTGT 845
QY 301 GTTTTGTGGGATGTTGTCCTTTTAAACACTAAGAAAGAAAGAAAGAACGCTGGC 360
DB 846 GTTTTGTGGGATGTTGTCCTTTTAAACACTAAGAAAGAAAGAAAGAACGCTGGC 905
QY 361 CCTCTCATGATGTGAACCATTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 420
DB 906 CCTCTCATGATGTGAACCATTAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 965
QY 421 AGAGTACCATACAGTACCTGAGAGATGATGATGAGAGAGAGAGAGAGAGAGAGAGAG 465
DB 966 AGAGTACCATACAGTACCTGAGAGATGATGATGAGAGAGAGAGAGAGAGAGAGAGAG 1010

RESULT 3
US-09-733-607-4/C
; Sequence 4, Application US/09733607
; Patent No. US20020042054A1
; GENERAL INFORMATION:
; APPLICANT: Tononi, Giulio
; APPLICANT: Cirelli, Chiara
; APPLICANT: Shaw, Paul J.
; APPLICANT: Greenspan, Ralph J.
; TITLE OF INVENTION: Vigilance Nucleic Acids and Related

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 954.151 seconds
(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509

Sequence: 1 atacaaggtaccagacc.....ggcagacaaagtactacaca 509

Scoring table:

OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 16154066 seqs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

EST:*
1: em_estha:*
2: em_esthum:*
3: em_estlin:*
4: em_estlun:*
5: em_estlov:*
6: em_estlpl:*
7: em_estro:*
8: em_estr:*
9: gb_estl:*
10: gb_estl2:*
11: gb_estl3:*
12: gb_estl4:*
13: gb_estl5:*
14: gb_estl6:*
15: em_estlun:*
16: em_estlom:*
17: gb_estl:*
18: em_gss_hum:*
19: em_gss_liv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_rod:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
C 1	40	7.9	512	9	AA056905 EST8224F.P
C 2	21	4.1	167	17	A2121157 RST8224F.P
C 3	21	4.1	303	10	AV530630 AV530630
C 4	21	4.1	402	10	AV802723 AV802723
C 5	21	4.1	407	10	AV617088 AV617088
C 6	21	4.1	408	10	AV817856 AV817856

C 7	21	4.1	416	10	AV808840
C 8	21	4.1	420	17	A2235242
C 9	21	4.1	420	17	A2496704
C 10	21	4.1	423	10	AV800142
C 11	21	4.1	430	10	AV810683
C 12	21	4.1	432	10	AV810294
C 13	21	4.1	515	12	BC622615
C 14	21	4.1	749	17	AC146101
C 15	21	4.1	1259	14	BM922472
C 16	20	3.9	172	10	AM034773
C 17	20	3.9	237	12	BC628176
C 18	20	3.9	294	10	BM429395
C 19	20	3.9	335	13	BT402787
C 20	20	3.9	363	17	AM046631
C 21	20	3.9	424	17	AQ315914
C 22	20	3.9	438	17	AQ504944
C 23	20	3.9	469	12	BF447785
C 24	20	3.9	536	17	AQ455702
C 25	20	3.9	581	9	AA145473
C 26	20	3.9	636	10	AM767798
C 27	20	3.9	781	17	BH536818
C 28	20	3.9	827	12	BG116239
C 29	20	3.9	939	17	AG177885
C 30	19	3.7	177	12	BF749521
C 31	19	3.7	216	17	AZ924333
C 32	19	3.7	265	10	BB606710
C 33	19	3.7	299	14	BP018386
C 34	19	3.7	329	12	BE825954
C 35	19	3.7	341	10	AM254786
C 36	19	3.7	345	12	BF536754
C 37	19	3.7	381	12	BF037606
C 38	19	3.7	384	10	AV812067
C 39	19	3.7	391	17	AZ638695
C 40	19	3.7	414	9	AU017834
C 41	19	3.7	415	17	AQ518306
C 42	19	3.7	418	14	BM964190
C 43	19	3.7	425	12	BF293343
C 44	19	3.7	435	14	BP010133
C 45	19	3.7	439	12	BG308450
C 46	19	3.7	458	17	B36309
C 47	19	3.7	483	17	AQ436554
C 48	19	3.7	494	12	BG544062
C 49	19	3.7	495	13	BM146985
C 50	19	3.7	520	17	AZ214107
C 51	19	3.7	538	17	AZ653795
C 52	19	3.7	539	17	AG081802
C 53	19	3.7	539	17	AQ425277
C 54	19	3.7	549	13	BQ332252
C 55	19	3.7	552	14	BQ510375
C 56	19	3.7	557	13	B1881983
C 57	19	3.7	561	13	B1534423
C 58	19	3.7	567	13	B1088964
C 59	19	3.7	572	10	BE295909
C 60	19	3.7	581	13	BM605375
C 61	19	3.7	587	17	BM625055
C 62	19	3.7	588	17	BH684063
C 63	19	3.7	590	13	BM023714
C 64	19	3.7	592	12	BG070991
C 65	19	3.7	595	17	AZ849042
C 66	19	3.7	608	12	BG083906
C 67	19	3.7	610	13	BM103329
C 68	19	3.7	614	13	BQ333141
C 69	19	3.7	623	13	BM571199
C 70	19	3.7	638	13	BM530205
C 71	19	3.7	642	13	BP012200
C 72	19	3.7	645	17	AZ409539
C 73	19	3.7	649	17	BH514807
C 74	19	3.7	650	17	AQ657076
C 75	19	3.7	652	13	B1089214
C 76	19	3.7	664	12	BF650796
C 77	19	3.7	681	13	B1275154
C 78	19	3.7	684	17	AZ329007
C 79	19	3.7	684	17	AZ329007

```

80 19 3 7 692 17 A2220176
81 19 3 7 693 17 A2293644
82 19 3 7 695 17 BG708661
83 19 3 7 697 17 A049949
84 19 3 7 723 13 B1669723
85 19 3 7 724 13 A2418977
86 19 3 7 727 17 A2870651
87 19 3 7 732 13 BM617363
88 19 3 7 738 12 BG306113
89 19 3 7 745 13 B1932910
90 19 3 7 751 10 AM076961
91 19 3 7 756 17 A2417121
92 19 3 7 760 17 BH518448
93 19 3 7 774 17 AG047561
94 19 3 7 789 17 A2895912
95 19 3 7 842 12 BG708702
96 19 3 7 847 17 A0743362
97 19 3 7 869 17 A2196047
98 19 3 7 875 12 BG495687
99 19 3 7 879 17 A2207755
100 19 3 7 880 10 BE612450

```

ALIGNMENTS

```

RESULT 1
AA056905/c 512 bp mRNA linear EST 18-SEP-1996
LOCUS
DEFINITION
EST224F Pig Spleen lambda gt 11 Library (Clontech Cat # PL1006b)
Sus scrofa cDNA clone SPL224 forward similar to L25259 CTLA4
counter-receptor , human, mRNA sequence.

```

```

ACCESSION
AA056905
VERSION
AA056905.1 GI:1549545
KEYWORDS
EST.
SOURCE
pig.
ORGANISM
Sus scrofa

```

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

REFERENCE
1 (bases 1 to 512)
Tuggle,C.K., Mahls,S. and Schmitz,C.
Expressed Sequence Tags from Pig Spleen
Unpublished (1996)
CONTACT: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGCGGAGGACTCCTG
BACKWARD: GACCGGCGCTCAGCT
Insert Length: 950 Std Error: 50.00
Seq primer: TGCGGAGGACTCCTG.

```

FEATURES

```

source
1..512
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone_lib="SPL224"
/clone_lib="Pig Spleen lambda gt 11 Library (Clontech Cat # PL1006b)"
/tissue_type="spleen"
/dev_stage="adult"
/note="Oligo (dtt) primed"
BASE COUNT
125 a 106 c 114 g 163 t 4 others
ORIGIN

```

```

Query Match
Best Local Similarity 100.0%; Pred. No. 5.8e-10;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
327 AACACTAAGAAAGAGAGAGACGCTGGCCCTCT 366

```

```

|||||
DB 193 AACACTAAGAAAGAGAGAGACGCTGGCCCTCT 154

```

```

RESULT 2
AA121157/c 167 bp DNA linear GSS 12-MAY-2000
LOCUS
DEFINITION
RPCI-23-163.TV RPCI-23 Mus musculus genomic clone RPCI-23-1G3, DNA
sequence.

```

```

ACCESSION
AA121157
VERSION
AA121157.1 GI:7787791
KEYWORDS
GSS.
SOURCE
house mouse.
ORGANISM
Mus musculus

```

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. Zhao, S., Nierman, W., Feldblyum, T., Malek, J., Shatsman, S., Akiret, B., Levins, M., McGann, S., Tsegaye, G., Geer, K., Krol, M., de Jong, P. and Fraser, C. M.

```

TITLE
Mouse BAC End Sequences from Library RPCI-23
JOURNAL
Unpublished (1999)
COMMENT
Other_GSS: RPCI-23-1G3.TJ
Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0200
Fax: 301 838 0208
Email: szhao@tigr.org

```

Clones are derived from the mouse BAC library RPCI-23. For BAC library availability, please contact Pieter de Jong (pieter@dejong.med.buffalo.edu). Clones may be purchased from BACPAC Resources (<http://bacpac.med.buffalo.edu/orderingframe.htm>) or from Resea ch Genetics (info@resgen.com). BAC end page: http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html

Plate: 1 row 6 column: 3
Seq primer: 17
Class: BAC ends.

FEATURES

```

source
1..167
/organism="Mus musculus"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone_lib="RPCI-23-1G3"
/clone_lib="RPCI-23"
/sex="Female"
/lab_host="DH10B"
/note="Organ: Kidney/Brain; Vector: pBAC3.6; Site: 1: EcoRI; Site: 2: EcoRI; Female C57BL/6J mouse kidney and/or brain genomic DNA was isolated and partially digested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBAC3.6 vector at the EcoRI sites. The ligation products were transformed into DH10B electrocompetent cells (BRL Life Technologies)."
BASE COUNT
33 a 25 c 38 g 71 t
ORIGIN

```

```

Query Match
Best Local Similarity 100.0%; Pred. No. 5.7;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

OY 206 TCTCCTACCTTCAATATAG 226
DB 23 TCTCCTACCTTCAATATAG 3

```

```

RESULT 3
AV530630/c 303 bp mRNA linear EST 01-SEP-2000
LOCUS
DEFINITION
AV530630 Arabidopsis thaliana flower buds Columbia Arabidopsis thaliana cDNA clone FB006dl1f 3', mRNA sequence.
ACCESSION
AV530630

```

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 24.4088 Seconds
(without alignments) 6395.163 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509

Sequence: 1 atacaaggtaccagcaaac.....ggcagcaaaagtactacaca 509

Scoring table: OLIGO NUC
Gapop 60.0 , Gapext 60.0

Searched: 441362 seqs, 15338381 residues

Word size : 0

Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

- 1: /cgn2_6/ptodata/1/lna/5A.COMB.seq:*
- 2: /cgn2_6/ptodata/1/lna/5B.COMB.seq:*
- 3: /cgn2_6/ptodata/1/lna/6A.COMB.seq:*
- 4: /cgn2_6/ptodata/1/lna/6B.COMB.seq:*
- 5: /cgn2_6/ptodata/1/lna/PCRTUS.COMB.seq:*
- 6: /cgn2_6/ptodata/1/lna/Backfile1.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	18	3.5	210	4	US-08-205-697A-31
2	18	3.5	210	4	US-08-702-525-31
3	18	3.5	210	5	PCT-US95-02576-31
4	18	3.5	306	3	US-08-479-744A-46
5	18	3.5	306	3	US-08-280-757B-46
6	18	3.5	751	4	US-09-039-982A-34
7	18	3.5	751	4	US-09-039-641-34
8	18	3.5	751	4	US-09-042-492D-34
9	18	3.5	751	4	US-09-042-762A-34
10	18	3.5	751	4	US-08-913-612A-34
11	18	3.5	837	5	PCT-US94-03744-1
12	18	3.5	972	4	US-08-848-760B-11
13	18	3.5	1002	4	US-09-039-982A-33
14	18	3.5	1002	4	US-08-101-624-1
15	18	3.5	1002	4	US-09-039-762A-33
16	18	3.5	1002	4	US-09-042-492D-33
17	18	3.5	1002	4	US-08-913-612A-33
18	18	3.5	1120	2	US-08-456-104-1
19	18	3.5	1120	2	US-08-101-624-1
20	18	3.5	1120	3	US-08-479-744A-1
21	18	3.5	1120	3	US-08-280-757B-1
22	18	3.5	1120	4	US-08-205-697A-22
23	18	3.5	1120	4	US-08-702-525-22
24	18	3.5	1120	4	US-08-403-253A-3
25	18	3.5	1120	5	PCT-US95-02576-22
26	18	3.5	1161	4	US-08-205-697A-24
27	18	3.5	1161	4	US-08-702-525-24

28	18	3.5	1161	5	PCT-US95-02576-24	Sequence 24, Appl
29	18	3.5	1424	4	US-09-326-186B-226	Sequence 226, Appl
30	18	3.5	1428	5	PCT-US94-09642-1	Sequence 1, Appl
31	18	3.5	1491	4	US-09-058-947A-3	Sequence 3, Appl
32	18	3.5	1502	4	US-08-868-373-11	Sequence 11, Appl
33	18	3.5	1807	4	US-09-058-947A-2	Sequence 2, Appl
34	18	3.5	3722	2	US-08-588-664B-2598	Sequence 2598, Ap
35	17	3.3	18	4	US-09-038-073-2598	Sequence 2598, Ap
36	17	3.3	18	4	US-09-385-982-211	Sequence 211, App
37	17	3.3	619	4	US-08-890-865A-2	Sequence 2, Appl
38	17	3.3	3761	4	US-08-843-417-9	Sequence 9, Appl
39	17	3.3	5874	4	US-08-939-366-27	Sequence 27, Appl
40	17	3.3	6677	4	US-09-467-997-6	Sequence 6, Appl
41	17	3.3	6677	4	US-08-245-809-3	Sequence 3, Appl
42	17	3.3	10395	1	US-08-245-809-5	Sequence 5, Appl
43	17	3.3	10396	1	US-08-961-527-89	Sequence 89, Appl
44	17	3.3	10411	4	US-08-107-748-2	Sequence 2, Appl
45	17	3.3	10798	1	PCT-US92-01385-2	Sequence 2, Appl
46	17	3.3	10798	5	US-08-107-748-4	Sequence 4, Appl
47	17	3.3	10965	1	US-08-107-748-4	Sequence 4, Appl
48	17	3.3	10965	5	PCT-US92-01385-4	Sequence 4, Appl
49	17	3.3	23629	4	US-09-729-995-3	Sequence 3, Appl
50	17	3.3	23629	4	US-09-750-580-1	Sequence 1, Appl
51	16	3.1	81001	4	US-08-717-526-79	Sequence 79, Appl
52	16	3.1	36	1	US-09-134-001C-2587	Sequence 2587, Ap
53	16	3.1	291	4	US-09-370-838-17	Sequence 17, Appl
54	16	3.1	317	4	US-09-385-982-494	Sequence 494, Appl
55	16	3.1	374	4	US-09-221-017B-73	Sequence 9, Appl
56	16	3.1	404	2	US-09-070-060-9	Sequence 9, Appl
57	16	3.1	471	2	US-09-357-746-9	Sequence 263, App
58	16	3.1	471	2	US-09-328-111-263	Sequence 2, Appl
59	16	3.1	475	4	US-09-051-669A-178	Sequence 178, App
60	16	3.1	487	3	US-09-221-017B-178	Sequence 538, App
61	16	3.1	490	4	US-09-328-111-538	Sequence 572, App
62	16	3.1	598	4	US-09-134-001C-2814	Sequence 1814, Ap
63	16	3.1	606	4	US-08-456-200B-16	Sequence 2, Appl
64	16	3.1	910	4	US-08-928-442-2	Sequence 1, Appl
65	16	3.1	1314	4	US-08-035-634-1	Sequence 1, Appl
66	16	3.1	1448	1	US-09-518-914-1	Sequence 1, Appl
67	16	3.1	1508	4	US-09-123-030-7	Sequence 7, Appl
68	16	3.1	1541	4	US-09-123-030-7	Sequence 7, Appl
69	16	3.1	1558	4	US-09-444-336-7	Sequence 3, Appl
70	16	3.1	1895	4	US-09-039-046-3	Sequence 1, Appl
71	16	3.1	2182	4	US-08-618-164-1	Sequence 1, Appl
72	16	3.1	2322	1	US-08-315-794-51	Sequence 51, Appl
73	16	3.1	2517	4	US-09-389-941-51	Sequence 4, Appl
74	16	3.1	2517	4	US-08-461-823-1	Sequence 1, Appl
75	16	3.1	2714	3	US-09-002-298-4	Sequence 421, App
76	16	3.1	2726	1	US-08-742-026-22	Sequence 22, Appl
77	16	3.1	2835	2	US-09-450-105-1	Sequence 1, Appl
78	16	3.1	3720	2	US-08-784-649A-1	Sequence 1, Appl
79	16	3.1	4233	3	US-08-784-649A-5	Sequence 5, Appl
80	16	3.1	4233	4	US-08-181-671-2	Sequence 2, Appl
81	16	3.1	4233	4	US-08-181-671-2	Sequence 1, Appl
82	16	3.1	4264	2	US-09-316-167-1	Sequence 1, Appl
83	16	3.1	4646	1	US-09-309-572-9	Sequence 9, Appl
84	16	3.1	4669	4	US-08-920-812-20	Sequence 20, Appl
85	16	3.1	4669	4	US-08-920-827-20	Sequence 20, Appl
86	16	3.1	4695	6	US-08-362-577C-20	Sequence 20, Appl
87	16	3.1	5541	1	US-08-921-177-20	Sequence 5, Appl
88	16	3.1	5541	1	US-08-920-828-20	Sequence 20, Appl
89	16	3.1	5541	2	US-08-793-010-5	Sequence 23, Appl
90	16	3.1	5541	2	US-08-149-0970-23	Sequence 23, Appl
91	16	3.1	5541	2	US-08-949-386-23	Sequence 23, Appl
92	16	3.1	6505	2	US-08-450-562-23	Sequence 23, Appl
93	16	3.1	6505	2	US-08-984-709A-23	Sequence 23, Appl
94	16	3.1	7791	3	US-08-450-562-23	Sequence 23, Appl
95	16	3.1	7791	3	US-08-984-709A-23	Sequence 23, Appl
96	16	3.1	7791	3	US-08-450-562-23	Sequence 23, Appl
97	16	3.1	7791	3	US-08-984-709A-23	Sequence 23, Appl
98	16	3.1	7791	3	US-08-450-562-23	Sequence 23, Appl
99	16	3.1	7791	3	US-08-984-709A-23	Sequence 23, Appl
100	16	3.1	7791	4	US-08-450-562-23	Sequence 23, Appl

ALIGNMENTS

```
RESULT 1
US-08-205-697A-31
; Sequence 31, Application US/08205697A
; Patent No. 6218510
; GENERAL INFORMATION:
; APPLICANT: Sharpe, Arlene H.
; APPLICANT: Borriello, Francescopaulo
; APPLICANT: Freeman, Gordon J.
; APPLICANT: Nadler, Lee M.
; TITLE OF INVENTION: No. 6218510el Forms of T Cell Costimulatory Molecules
; NUMBER OF SEQUENCES: 61
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: LAHYE & COCKFIELD
; STREET: 60 State Street, suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: ASCII Text
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/205,697A
; FILING DATE: 02-Mar-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
; REGISTRATION NUMBER: 36,207
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)227-5941
; INFORMATION FOR SEQ ID NO: 31:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 210 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; FEATURE:
; NAME/KEY: CDS
; LOCATION: 1..183
; US-08-205-697A-31

Query Match 3.5%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 6.2;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 445 AGATCTGATGAAGCCGAG 462
Db 112 AGATCTGATGAAGCCGAG 129

RESULT 2
US-08-702-525-31
; Sequence 31, Application US/08702525
; Patent No. 6294660
; GENERAL INFORMATION:
; APPLICANT: Sharpe, Arlene H.
; APPLICANT: Borriello, Francescopaulo
; APPLICANT: Freeman, Gordon
; APPLICANT: Nadler, Lee
; TITLE OF INVENTION: No. 6294660el Forms of T Cell Costimulatory
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: LAHYE & COCKFIELD
; STREET: 60 State Street, suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: ASCII Text
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/702,525
; FILING DATE: 02-Mar-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
; REGISTRATION NUMBER: 36,207
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)227-5941
; INFORMATION FOR SEQ ID NO: 31:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 210 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; FEATURE:
; NAME/KEY: CDS
; LOCATION: 1..183
; US-08-702-525-31

Query Match 3.5%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 6.2;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 445 AGATCTGATGAAGCCGAG 462
Db 112 AGATCTGATGAAGCCGAG 129
```

```
ADDRESSEE: LAHYE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/702,525
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWI-120CPUS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: cDNA
FEATURE:
NAME/KEY: CDS
LOCATION: 1..183
US-08-702-525-31

Query Match 3.5%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 6.2;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 445 AGATCTGATGAAGCCGAG 462
Db 112 AGATCTGATGAAGCCGAG 129

RESULT 3
PCT-US95-02576-31
; Sequence 31, Application PC/TUS9502576
; GENERAL INFORMATION:
; APPLICANT:
; TITLE OF INVENTION: Novel Forms of T Cell Costimulatory Molecules
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: LAHYE & COCKFIELD
; STREET: 60 State Street, suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: ASCII Text
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US95/02576
; FILING DATE:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/205,697
; FILING DATE: 02-Mar-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
```

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 1041.4 Seconds

(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359

Sequence: 1 atacaaggtaccacagaacc.....ggcgacaagaagtactactaaca 359

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 2054640 segs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

GenEmbl:*
1: gb_da:*
2: gb_hcg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vi:*
15: em_da:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vi:*
30: em_hcg_hum:*
31: em_hcg_inv:*
32: em_hcg_other:*
33: em_hcg_mus:*
34: em_hcg_pln:*
35: em_hcg_rod:*
36: em_hcg_mam:*
37: em_hcg_vrt:*
38: em_sy:*
39: em_hggo_hum:*
40: em_hggo_mus:*
41: em_hggo_other:*

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	227	63.2	1138	4	AF157827	AF157827 Felis cat
2	227	63.2	1270	4	AB030652	AB030652 Felis cat
3	227	63.2	2830	4	AY007704	AY007704 Felis cat
4	42	11.7	1795	4	AF106827	AF106827 Canis fam
5	42	11.7	1897	4	AF106826	AF106826 Canis fam
6	22	6.1	98469	2	AC110936	AC110936 Rattus no
7	22	6.1	175122	2	AC111364	AC111364 Rattus no
8	22	6.1	221789	2	AC115967	AC115967 Mus muscu
9	21	5.8	133	4	AF222915	AF222915 Sus scrof
10	21	5.8	924	4	BT4291475	AJ291475 Bos tauru
11	21	5.8	994	4	PIGCD86G	L76099 Sus scrofa
12	21	5.8	994	4	PIGCD86G	AX027016 Sequence
13	21	5.8	53785	2	AC099866	AC099866 Mus muscu
14	21	5.8	53785	2	AC099866	AC099866 Mus muscu
15	21	5.8	91448	9	AL672061	AL672061 Human DNA
16	21	5.8	149810	2	AL691455	AL691455 Homo sapi
17	21	5.8	158647	2	AC103495	AC103495 Rattus no
18	21	5.8	159020	9	AL450307	AL450307 Human DNA
19	21	5.8	163584	2	AC127843	AC127843 Rattus no
20	21	5.8	166384	2	AC113446	AC113446 Mus muscu
21	21	5.8	167469	2	AC113882	AC113882 Rattus no
22	21	5.8	174662	2	AC026036	AC026036 Homo sapi
23	21	5.8	177552	2	AC099361	AC099361 Rattus no
24	21	5.8	181842	2	AL391823	AL391823 Homo sapi
25	21	5.8	185574	2	AC128374	AC128374 Rattus no
26	21	5.8	205221	2	AC115723	AC115723 Mus muscu
27	20	5.6	72052	2	AC121263	AC121263 Mus muscu
28	20	5.6	72052	2	AC121263	AC121263 Mus muscu
29	20	5.6	85448	5	AL645788	AL645788 Zebrafish
30	20	5.6	99509	3	LMFP1295	AL359773 Leishmani
31	20	5.6	102488	2	AC110288	AC110288 Homo sapi
32	20	5.6	104792	2	AC111653	AC111653 Rattus no
33	20	5.6	115974	2	AC094317	AC094317 Rattus no
34	20	5.6	155357	2	AC118923	AC118923 Rattus no
35	20	5.6	171857	2	AC105880	AC105880 Rattus no
36	20	5.6	173906	2	AC121059	AC121059 Rattus no
37	20	5.6	178728	2	AC106461	AC106461 Rattus no
38	20	5.6	182880	2	AC107414	AC107414 Rattus no
39	20	5.6	186058	2	AC112245	AC112245 Homo sapi
40	20	5.6	189845	2	AC095282	AC095282 Rattus no
41	20	5.6	193772	9	AC007073	AC007073 Homo sapi
42	20	5.6	194881	2	AC018967	AC018967 Homo sapi
43	20	5.6	195701	2	AC091692	AC091692 Homo sapi
44	20	5.6	196452	2	AC018869	AC018869 Homo sapi
45	20	5.6	201657	9	AC006840	AC006840 Homo sapi
46	20	5.6	206082	2	AC126936	AC126936 Mus muscu
47	20	5.6	234524	2	AC102428	AC102428 Mus muscu
48	19	5.3	1239	9	HSASRFAS1	AF061978 Homo sapi
49	19	5.3	1814	9	HSFASX567	Z47992 H.sapiens F
50	19	5.3	2366	10	MMU291750	AJ291750 Mus muscu
51	19	5.3	2463	6	AX191447	AX191447 Sequence
52	19	5.3	2593	10	RNO295748	AJ295748 Rattus no
53	19	5.3	3510	3	AY043295	AY043295 Trypanoso
54	19	5.3	4316	8	AF039083	AF039083 Spindacia
55	19	5.3	40901	8	SPCC622	AL033127 S.pombe C
56	19	5.3	44005	9	AC000081	AC000081 Homo sapi
57	19	5.3	52552	9	AL133539	AL133539 Human DNA
58	19	5.3	54398	2	AC068224	AC068224 Homo sapi
59	19	5.3	62443	2	AL136973	AL136973 Human DNA
60	19	5.3	67035	2	AC113014	AC113014 Mus muscu
61	19	5.3	67590	2	AC097283	AC097283 Rattus no
62	19	5.3	70453	2	AC116332	AC116332 Homo sapi
63	19	5.3	71504	3	AC002473	AC002473 Drosophil
64	19	5.3	72354	2	AL357123	AL357123 Human DNA
65	19	5.3	74002	2	AC124990	AC124990 Mus muscu

Pred. No. is the number of results predicted by chance to have a

```

c 66 19 5.3 79769 2 AC115678 AC115678 Dictyoste
67 19 5.3 88933 2 AC017870 AC017870 Drosophil
68 19 5.3 90592 2 AC111716 AC111716 Rattus no
c 69 19 5.3 96119 2 AC110531 AC110531 Mus muscu
c 70 19 5.3 97979 9 AC004739 AC004739 Homo sapi
71 19 5.3 104630 9 AC007397 AC007397 Homo sapi
c 72 19 5.3 110000 2 AC091288_2 AC091288_2 Continuation (3 of
73 19 5.3 116620 2 AC123322 AC123322 Rattus no
c 74 19 5.3 119856 2 AP004005 AP004005 Oryza sat
c 75 19 5.3 130698 2 AC128916 AC128916 Rattus no
76 19 5.3 133148 2 AC113890 AC113890 Rattus no
c 77 19 5.3 136336 2 AC123340 AC123340 Rattus no
c 78 19 5.3 137463 2 AC107474 AC107474 Rattus no
c 79 19 5.3 140791 8 AP002912 AP002912 Oryza sat
c 80 19 5.3 140899 2 AC093492 AC093492 Oryza sat
81 19 5.3 147467 2 AC118573 AC118573 Lemur cat
82 19 5.3 149094 2 AC095074 AC095074 Rattus no
83 19 5.3 149347 2 AC121998 AC121998 Mus muscu
84 19 5.3 150584 2 AC117279 AC117279 Rattus no
c 85 19 5.3 151482 2 AC068765 AC068765 Homo sapi
c 86 19 5.3 152865 2 AC135937 AC135937 Homo sapi
87 19 5.3 154442 2 AC083971 AC083971 Homo sapi
88 19 5.3 156645 2 AC114710 AC114710 Rattus no
89 19 5.3 158692 9 AC009490 AC009490 Homo sapi
90 19 5.3 159476 9 AC090149 AC090149 Homo sapi
91 19 5.3 159531 9 AC090575 AC090575 Homo sapi
c 92 19 5.3 160209 9 AC012324 AC012324 Homo sapi
93 19 5.3 160737 2 AC100732 AC100732 Mus muscu
94 19 5.3 161339 9 AC007535 AC007535 Homo sapi
95 19 5.3 161375 2 AC068715 AC068715 Homo sapi
96 19 5.3 162496 2 AC004846 AC004846 Mus muscu
97 19 5.3 163464 9 AC007462 AC007462 Homo sapi
98 19 5.3 164863 2 AC129780 AC129780 Mus muscu
99 19 5.3 165930 2 AC108292 AC108292 Rattus no
c 100 19 5.3 171594 3 AC099019 AC099019 Drosophil

```

ALIGNMENTS

```

RESULT 1
AF157827 1138 bp mRNA linear MAM 08-MAY-2000
LOCUS AF157827
DEFINITION Felis catus CD86 antigen (CD86) mRNA, complete cds.
ACCESSION AF157827
VERSION AF157827.1 GI:5381423
KEYWORDS
SOURCE
ORGANISM Felis catus.
Eukaryota; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

```

```

REFERENCE
AUTHORS Choi,I.S., Hash,S.M., Winslow,B.J. and Collisson,E.W.
TITLE Sequence analyses of feline B7 costimulatory molecules
JOURNAL Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)
MEDLINE 20180222
PUBMED 10713336
REFERENCE
AUTHORS Choi,I.S., Hash,S., Winslow,B.J. and Collisson,E.W.
TITLE Direct Submission
JOURNAL Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M
University, Bldg. 1197 Km. 222, College Station, TX 77843, USA
FEATURES
source
1. 1138
/organism="Felis catus"
/db_xref="taxon:9685"
1. 1138
/gene="CD86"
63. 1052
/gene="CD86"
/note="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"

```

```

/protein_id="AAD42974.1"
/db_xref="GI:5381424"
/translation="MGIDSTSTGSHLTLLVALLISGVSSKSOAYFNKGTLCHEFT
NSQNSIDELIVFMODQKLYLEIFERKENPQNHLYEKRTSPDNDTLRLHNVQ
IKDKGTYEHLTKGPKGLVPEHWSDDL SVLANV SDEPITVTSNRKENSGLINLTCS
STOGYPEREKEMFQNTENSTKPYDTPVKRQNNTELYNSISLPEVPAHNVSVF
CALKLETTLEMLSLPENIDADPKDPDQGHFLMIAVLAVHVFVFCGWSFKTRKR
KKQPSHSCETIKRERRESKOTNRVRYHVPERDEACVNIILKTASGDKNQ"
BASE COUNT 358 a 245 c 246 g 289 t
ORIGIN
Query Match 63.2%; Score 227; DB 4; Length 1138;
Best Local Similarity 100.0%; Pred. No. 1.3e-114;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY 1 ATCAAGGTTACCAACCTAAGAGATGTTTTCACCTAACAAGATTCACCT 60
Db 546 ATCAAGGTTACCAACCTAAGAGATGTTTTCACCTAACAAGATTCACCT 605
QY 61 ACTAAGTATGATCTGTCATGAAGAATCTCAAAATATGTGACAGAACTGACACGTT 120
Db 606 ACTAAGTATGATCTGTCATGAAGAATCTCAAAATATGTGACAGAACTGACACGTT 665
QY 121 TCTATAGCTTGCTTTTTCAGTCCCTGAAGACACACATGTAGCGTCTTTTGCCCTG 180
Db 666 TCTATAGCTTGCTTTTTCAGTCCCTGAAGACACACATGTAGCGTCTTTTGCCCTG 725
QY 181 AACTGAGACACATGAGATGCTGCTCCCTACCTTCATATATAGA 227
Db 726 AACTGAGACACATGAGATGCTGCTCCCTACCTTCATATATAGA 772

```

```

RESULT 2
AB030652 1270 bp mRNA linear MAM 01-MAR-2001
LOCUS AB030652
DEFINITION Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
complete cds.
ACCESSION AB030652
VERSION AB030652.1 GI:9796387
KEYWORDS B-lymphocyte activation antigen B7-2 (CD86).
SOURCE Felis catus peripheral blood mononuclear cell cDNA to mRNA.
ORGANISM Eukaryota; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
REFERENCE
AUTHORS Nishimura,Y., Shimojima,M., Miyazawa,T., Sato,E., Nakamura,K.,
Izumiyu,Y., Ikeda,Y., Mikami,T. and Takahashi,E.
TITLE Molecular cloning of the cDNAs encoding the feline B-lymphocyte
activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
interact with human CTLA4-Ig
JOURNAL Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
MEDLINE 20485322
PUBMED 11071336
REFERENCE
AUTHORS Nishimura,Y.
TITLE Direct Submission
JOURNAL Submitted (31-JUL-1999) Yorihiro Nishimura, Faculty of Agriculture,
The University of Tokyo, Department of Veterinary Microbiology;
1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan
(E-mail:yorihiro@ccr.riken.go.jp, Tel:+81-3-5841-5396,
Fax:+81-3-5841-8184)
COMMENT
Sequence updated (08-Jun-2000).
FEATURES
source
1. 1270
/organism="Felis catus"
/db_xref="taxon:9685"
/cell_type="peripheral blood mononuclear cell"
1. 1270
/gene="CD86"
240. 1238
/gene="CD86"
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB11688.1"

```



```

/db_xref="GI:9796388"
/translation="MGICDSTMGSLSHLLVMAALLSVSSSMKSOAYFNKTEGPCHEFT
NSONISDELVEWODODKLVLEYIFRGKGNPOVHHKYKGRISFDKDNMTLRLAHNO
IKDKGYHCFHHYKGRGLVPMHOMSSDLSVLAFTSPETTSNRENGIINLUTCS
STGCPREKEMFOLNTEENSTTKTDIVMKSSONNVTELVNLSISLPSVEAHNVSE
CALLETLEMLSLPFINIDAPKDKDEQGHFLMIAVLVFWVFCGWSFETLRRKK
KKQGPSHCETIKRERKESKOTNERVPYHVPERSDEACVNILKTASGDKSTTHF"
polyA_signal
1245..1250
/gene="CD86"

BASE COUNT      378 a      281 c      260 g      351 t
ORIGIN
Query Match      63.2%; Score 227; DB 4; Length 1270;
Best Local Similarity 100.0%; Pred. No. 1.2e-114;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACCT 60
    |||||||
Db 723 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACCT 782
    |||||||

QY 61 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGAGACAGACTGACAGCTT 120
    |||||||
Db 783 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGAGACAGACTGACAGCTT 842
    |||||||

QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 180
    |||||||
Db 843 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 902
    |||||||

QY 181 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 227
    |||||||
Db 903 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 949
    |||||||

RESULT 3
AY007704      2830 bp      mRNA      linear      MAM 03-OCT-2001
LOCUS
DEFINITION   Fells catus CD86 (CD86) mRNA, complete cds.
ACCESSION   AY007704
VERSION      AY007704.1 GI:15418725
KEYWORDS
SOURCE       Fells catus.
ORGANISM     Fells catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Fells.
REFERENCE    1 (bases 1 to 2830)
AUTHORS      Yang, S., Sellins, K.S., Powell, T., Stoneman, E. and Sim, G.K.
TITLE        Novel transcripts encoding secreted forms of feline CD80 and CD86
JOURNAL      Vet. Immunol. Immunopathol. 81 (1-2), 15-21 (2001)
MEDLINE      21390213
PUBMED       11498243
REFERENCE    2 (bases 1 to 2830)
AUTHORS      Yang, S.
TITLE        Direct Submission
JOURNAL      Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
Prospect Parkway, Ft Collins, CO 80525, USA
FEATURES
Source
1..2830
    /organism="Fells catus"
    /db_xref="taxon:9685"
    1..2830
    /gene="CD86"
    179..1177
    /gene="CD86"
    /note="CD28/CTLA4 counter receptor; B7-2 protein"
    /codon_start=1
    /product="CD86"
    /protein_id="FAG23342.1"
    /db_xref="GI:15418725"
    /translation="MGICDSTMGSLSHLLVMAALLSVSSSMKSOAYFNKTEGPCHEFT
    NSONISDELVEWODODKLVLEYIFRGKGNPOVHHKYKGRISFDKDNMTLRLAHNO
    IKDKGYHCFHHYKGRGLVPMHOMSSDLSVLAFTSPETTSNRENGIINLUTCS
    STGCPREKEMFOLNTEENSTTKTDIVMKSSONNVTELVNLSISLPSVEAHNVSE
    VLOGESKLSLSPFINIDAPKDKDEQGHFLMIAVLVFWVFCGWSFETLRRKK
    KKQGPSHCETIKRERKESKOTNERVPYHVPERSDEACVNILKTASGDKSTTHF"
    3'UTR
    850..1795

```

```

CALLETLEMLSLPFINIDAPKDKDEQGHFLMIAVLVFWVFCGWSFETLRRKK
KKQGPSHCETIKRERKESKOTNERVPYHVPERSDEACVNILKTASGDKSTTHF"
BASE COUNT      877 a      570 c      586 g      797 t
ORIGIN
Query Match      63.2%; Score 227; DB 4; Length 2830;
Best Local Similarity 100.0%; Pred. No. 1.2e-114;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACCT 60
    |||||||
Db 662 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACCT 721
    |||||||

QY 61 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGAGACAGACTGACAGCTT 120
    |||||||
Db 722 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGAGACAGACTGACAGCTT 781
    |||||||

QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 180
    |||||||
Db 782 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 841
    |||||||

QY 181 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 227
    |||||||
Db 842 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 888
    |||||||

RESULT 4
AF106827      1795 bp      mRNA      linear      MAM 14-DEC-1999
LOCUS
DEFINITION   Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.
ACCESSION   AF106827
VERSION      AF106827.1 GI:6572518
KEYWORDS
SOURCE       Canis familiaris.
ORGANISM     Canis familiaris
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
REFERENCE    1 (bases 1 to 1795)
AUTHORS      Yang, S. and Sim, G.K.
TITLE        New forms of dog CD80 and CD86 transcripts that encode secreted B7
molecules
JOURNAL      Immunogenetics 50 (5-6), 349-353 (1999)
MEDLINE      20093996
PUBMED       10630300
REFERENCE    2 (bases 1 to 1795)
AUTHORS      Yang, S. and Sim, G.K.
TITLE        Direct Submission
JOURNAL      Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825
Sharp Point Drive, Fort Collins, CO 80525, USA
FEATURES
Source
1..1795
    /organism="Canis familiaris"
    /db_xref="taxon:9615"
    /cell_type="peripheral blood mononuclear cells"
    1..1795
    /gene="CD86"
    1..6
    /gene="CD86"
    7..849
    /gene="CD86"
    /function="counter-receptor for CD28 and CD152 (CTLA4)"
    /note="lacks transmembrane domain; alternatively spliced"
    /codon_start=1
    /product="truncated B7-2 protein"
    /protein_id="AA17298.1"
    /db_xref="GI:6572519"
    /translation="MYLRCTMELNNILFVTLILLYGAASMKSOAYFNKTEGPCHEFTN
    SONISDELVEWODODKLVLEYIFRGKGNPOVHHKYKGRISFDKDNMTLRLAHNOI
    KDKGYOCFVHHKGRGLVPMHOMSSDLSVLAFTSPETTSNRENGIINLUTCS
    STGCPREKEMFOLNTEENSTTKTDIVMKSSONNVTELVNLSISLPSVEAHNVSE
    VLOGESKLSLSPFINIDAPKDKDEQGHFLMIAVLVFWVFCGWSFETLRRKK
    KKQGPSHCETIKRERKESKOTNERVPYHVPERSDEACVNILKTASGDKSTTHF"
    3'UTR
    850..1795

```

BASE COUNT 592 a 366 c 347 g 490 t
 ORIGIN
 Query Match 11.7%; Score 42; DB 4; Length 1795;
 Best Local Similarity 100.0%; Pred. No. 6.2e-12;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
 Db 546 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 587

RESULT 5
 AF106826 1897 bp mRNA linear MAM 14-DEC-1999
 LOCUS Canis familiaris B7-2 protein (CD86) mRNA, complete cds.
 DEFINITION AF106826
 ACCESSION AF106826
 VERSION AF106826.1 GI:6572516
 KEYWORDS
 SOURCE Canis familiaris.
 ORGANISM Canis familiaris.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 REFERENCE 1 (bases 1 to 1897)
 AUTHORS Yang, S. and Sim, G. K.
 TITLES New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules
 JOURNAL Immunogenetics 50 (5-6), 349-353 (1999)
 MEDLINE 20093996
 PUBMED 10630300
 REFERENCE 2 (bases 1 to 1897)
 AUTHORS Yang, S. and Sim, G. K.
 TITLES Direct Submission
 JOURNAL Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
 source
 1. 1897
 location/Qualifiers
 /organism="Canis familiaris"
 /db_xref="taxon:9615"
 /cell_type="peripheral blood mononuclear cells"
 1. 1897
 /gene="CD86"
 1. 5
 /gene="CD86"
 6. 995
 /gene="CD86"
 /function="counter-receptor for CD28 and CD152 (CTLA4)"
 /codon_start=1
 /product="B7-2 protein"
 /protein_id="AF17297.1"
 /db_xref="GI:6572517"
 /translation="MYLQCTMELNLTFLVWTLTYGAASMSQAYFNKTEGLPCHEFTN
 SONSLIDEVVEWQDDKLVLYELVGRKKNPNVHRYKRTSPKDNWTLNLHNIQI
 KDKGLVQCEVHHGPKGLVPMHQMNSDLVLANFSQPEIMVTSNRPENGGIINTLCS
 IOGYPPKREYFLVKTENSTKTDYMKSSQNNVVELVVSISPSVEASNVISFC
 VIQLESMLPSLPLYNIDAHTRKPRPGSDHIMTALILYMIYVICGWFFELTKRRKKQ
 PGSHCECTNNKVRKESEQTKERVRIHETRSDEACVNIKSTASGDNSTTF"
 996. 1897
 /gene="CD86"
 3 UTR
 BASE COUNT 585 a 400 c 383 g 529 t
 ORIGIN
 Query Match 11.7%; Score 42; DB 4; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 6.2e-12;
 Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
 Db 545 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 586

RESULT 6

AC110936
 LOCUS 98469 bp DNA linear HTG 13-JUL-2002
 DEFINITION Rattus norvegicus clone CH230-188N19, *** SEQUENCING IN PROGRESS
 *** 51 unordered pieces.
 AC110936
 AC110936.4 GI:21738079
 HTG: HTGS_PHASE1.
 KEYWORDS Norway rat.
 SOURCE Rattus norvegicus
 ORGANISM Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
 Rattus.
 1 (bases 1 to 98469)
 Muzny, D.M., Adams, C., Adio-Oduola, B., Ali-osman, F.R., Allen, C.,
 Alsdorcks, S.L., Amaralunge, H.C., Are, J.R., Ayele, R., Banks, T.,
 Barbarta, J., Benton, J., Bimage, K., Blankenburg, K., Bonnin, D.,
 Bouck, J., Bowie, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P.,
 Buhay, C., Burch, P., Burke, C., Burrell, K.L., Byrd, N.C.,
 Carron, T.F., Carter, M., Cavazos, S.R., Chacko, J., Chavez, D.,
 Chen, G., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C.,
 Cleveland, C.D., Cox, C., Coyle, M.D., Dathorne, S.R., David, R.,
 Davila, M.L., Davis, C., Davy-Carroll, L., Dederich, D.A.,
 Delaney, K.R., Delgado, O., Denn, A.L., Ding, Y., Dinh, H.H.,
 Douthwaite, K.J., Draper, H., Dugan-Rocha, S., Durbin, K.J.,
 Earnhart, C., Edgar, D., Edwards, C.C., Elhaj, C., Escotto, M.,
 Falls, T., Ferraguto, D., Flagg, N., Ford, J., Foster, P., Frantz, P.,
 Gabisi, A., Gao, J., Garcia, A., Garner, T., Garza, N., Gill, R.,
 Gorrell, J.H., Guevara, W., Gunaratne, P., Hale, S., Hamilton, K.,
 Harris, C., Harris, K., Hart, M., Haylak, P., Hawes, A., Hernandez, J.,
 Hernandez, O., Hodgson, A., Hogue, M., Hollaway, C., Hollins, B.,
 Homsi, F., Howard, S., Huber, J., Huiyk, S., Hume, J., Jackson, L.E.,
 Jacobson, B., Jia, Y., Johnson, R., Jolivet, S., Joudah, S.,
 Karlsson, E., Kelly, S., Khan, U., King, L., Korvah, J., Kovar, C.,
 Kratovic, J., Kureshi, A., Landry, N., Leal, B., Lewis, L.C., Lewis, L.,
 Li, J., Li, Z., Lichtarge, O., Lieu, C., Liu, J., Liu, W., Loulsegod, H.,
 Lozdo, R.J., Lu, X., Lucier, A., Lucier, R., Luna, R., Ma, J.,
 Maheshwari, M., Mapua, P., Martin, R., Martindale, A., Martinez, E.,
 Massey, E., Mawhney, E., McLeod, M.P., Meador, M., Mei, G., Metzker, M.,
 Miner, G., Miner, Z., Mitchell, T., Mohabbat, K., Morgan, M., Morris, S.,
 Moser, M., Neal, D., Newton, J., Nohabhat, R., Nguyen, M., Nguyen, N.,
 Nguyen, N., Nickerson, E., Nwokenko, S., Ogul, M., Okunonu, G.,
 Oragunye, N., Oviedo, R., Pace, A., Payton, B., Peary, J., Perez, L.,
 Peters, L., Pickens, R., Primus, E., Pu, L.L., Qulies, M., Ren, Y.,
 Rivers, M., Rojas, A., Rojudo, K., Rolfe, M., Ruiz, S., Savery, G.,
 Scherer, S., Scott, G., Shen, H., Shoostitari, N., Sisson, I.,
 Sodergren, E., Sonaike, T., Sparks, A., Stanley, H., Stone, H.,
 Sutton, A., Syatek, A., Tabor, P., Tamerisa, A., Tamerisa, K., Tang, H.,
 Tansey, J., Taylor, C., Taylor, T., Telford, B., Thomas, N., Thomas, S.,
 Umani, K., Vasquez, L., Vera, V., Villalob, D., Vinson, R., Wang, O.,
 Wang, S., Ward-Moore, S., Warren, R., Washington, C., Watlington, S.,
 Williams, G., Williamson, A., Wleczyk, R., Woodson, S., Worley, K.,
 Wu, C., Wu, Y., Wu, Y.F., Zhou, J., Zorilla, S., Nelson, D.,
 Weinstein, G., and Gibbs, R.
 Direct Submission
 TITLES Unpublished
 JOURNAL 2 (bases 1 to 98469)
 REFERENCE 1 (bases 1 to 98469)
 AUTHORS Worley, K.C.
 TITLES Direct Submission
 JOURNAL Submitted (17-FEB-2002) Human Genome Sequencing Center, Department
 of Molecular and Human Genetics, Baylor College of Medicine, One
 Baylor Plaza, Houston, TX 77030, USA
 On Jul 12, 2002 this sequence version replaced gi:20303148.
 COMMENT
 ----- Genome Center
 Center: Baylor College of Medicine
 Center code: BCM
 Web site: http://www.hgsc.bcm.tmc.edu/
 Contact: hgsc-help@bcm.tmc.edu

```

----- Project Information
Center project name: GORU
Center clone name: CH230-188N19
----- Summary Statistics
Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 58747 bases at least Q40
Consensus quality: 62864 bases at least Q30
Consensus quality: 66529 bases at least Q20
-----
* NOTE: Estimated insert size may differ from sequence length
* (see http://www.hgsc.bcm.tmc.edu/docs/genbank_draft_data.html).
* NOTE: This is a 'working draft' sequence. It currently
* consists of 51 contigs. The true order of the pieces
* is not known and their order in this sequence record is
* arbitrary. Gaps between the contigs are represented as
* runs of N, but the exact sizes of the gaps are unknown.
* This record will be updated with the finished sequence
* as soon as it is available and the accession number will
* be preserved.
1
* 1004 1103: contig of 1003 bp in length
* 1104 2678: contig of 1575 bp in length
* 2679 2778: gap of unknown length
* 2779 3851: contig of 1073 bp in length
* 3852 3951: gap of unknown length
* 3952 5019: contig of 1068 bp in length
* 5020 5119: gap of unknown length
* 5120 6538: contig of 1419 bp in length
* 6539 6638: gap of unknown length
* 6639 8369: contig of 1731 bp in length
* 8370 8470 9978: contig of 1509 bp in length
* 9979 10078: gap of unknown length
* 10079 11368: contig of 1290 bp in length
* 11369 11469: gap of unknown length
* 11470 13060: contig of 1592 bp in length
* 13061 13160: gap of unknown length
* 13161 15022: contig of 1862 bp in length
* 15023 15122: gap of unknown length
* 15123 16136: contig of 1014 bp in length
* 16137 16236: gap of unknown length
* 16237 17891: contig of 1655 bp in length
* 17892 17991: gap of unknown length
* 17992 19434: contig of 1443 bp in length
* 19435 19534: gap of unknown length
* 19535 21851: contig of 2317 bp in length
* 21852 21951: gap of unknown length
* 21952 23244: contig of 1293 bp in length
* 23245 23344: gap of unknown length
* 23345 24821: contig of 1477 bp in length
* 24822 24921: gap of unknown length
* 24922 25927: contig of 1006 bp in length
* 25928 26027: gap of unknown length
* 26028 27504: contig of 1477 bp in length
* 27505 27604: gap of unknown length
* 27605 29283: contig of 1679 bp in length
* 29284 29383: gap of unknown length
* 29384 30825: contig of 1442 bp in length
* 30826 30925: gap of unknown length
* 30926 32353: contig of 1428 bp in length
* 32354 32453: gap of unknown length
* 32454 34101: contig of 1648 bp in length
* 34102 34201: gap of unknown length
* 34202 35935: contig of 1734 bp in length
* 35936 36035: gap of unknown length
* 36036 37584: contig of 1549 bp in length
* 37585 37684: gap of unknown length
* 37685 39417: contig of 1733 bp in length
* 39418 39517: gap of unknown length
* 39518 41177: contig of 1660 bp in length
* 41178 41277: gap of unknown length

```

```

* 41278 43419: contig of 2142 bp in length
* 43420 43519: gap of unknown length
* 43520 4426: contig of 1907 bp in length
* 4426 4526: gap of unknown length
* 4526 47257: contig of 1731 bp in length
* 47257 47357: gap of unknown length
* 47358 48841: contig of 1484 bp in length
* 48842 48941: gap of unknown length
* 48942 50805: contig of 1864 bp in length
* 50806 50905: gap of unknown length
* 50906 52124: contig of 1219 bp in length
* 52125 52224: gap of unknown length
* 52225 53867: contig of 1643 bp in length
* 53868 53967: gap of unknown length
* 53968 55206: contig of 1239 bp in length
* 55207 55306: gap of unknown length
* 55307 56708: contig of 1402 bp in length
* 56709 56808: gap of unknown length
* 56809 58260: contig of 1452 bp in length
* 58261 58360: gap of unknown length
* 58361 59743: contig of 1383 bp in length
* 59744 59843: gap of unknown length
* 59844 61952: contig of 2109 bp in length
* 61953 62052: gap of unknown length
* 62053 63497: contig of 1445 bp in length
* 63498 63597: gap of unknown length
* 63598 65534: contig of 1937 bp in length
* 65535 65634: gap of unknown length
* 65635 67608: contig of 1974 bp in length
* 67609 67709: gap of unknown length
* 67709 69456: contig of 1748 bp in length
* 69457 69557: gap of unknown length
* 69557 72847: contig of 3291 bp in length
* 72848 72947: gap of unknown length
* 72948 76677: contig of 3730 bp in length
* 76678 76777: gap of unknown length
* 76778 78346: contig of 1569 bp in length
* 78347 78446: gap of unknown length
* 78447 81817: contig of 3371 bp in length
* 81818 81917: gap of unknown length
* 81918 84444: contig of 2527 bp in length
* 84445 84544: gap of unknown length
* 84545 87934: contig of 3390 bp in length
* 87935 88034: gap of unknown length
* 88035 90587: contig of 2553 bp in length
* 90588 90688: gap of unknown length
* 90688 93786: contig of 3099 bp in length
* 93787 93886: gap of unknown length
* 93887 98469: contig of 4583 bp in length.
*
FEATURES
    source          1..98469
                    /organism="Rattus norvegicus"
                    /db_xref="taxon:10116"
                    /clone="CH230-188N19"
BASE COUNT      23984 a 22028 c 21322 g 24378 t 6757 others
Query Match      6.1%; Score 22; DB 2; Length 98469;
Best Local Similarity 100.0%; Pred. NO. 0.55;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY      235 AAAAGGAGAGAAAAGAGACA 256
Db      28864 AAAAGGAGAGAAAAGAGACA 28885
RESULT 7
AC111364/c      AC111364      175122 bp      DNA      linear      HTG 13-JUL-2002
LOCUS          Rattus norvegicus clone CH230-89N15, *** SEQUENCING IN PROGRESS
DEFINITION     *** 78 unordered pieces.
ACCESSION     AC111364
VERSION       AC111364.2 GI:21735890
KEYWORDS      HTG; HTGS_PHASE1.

```

SOURCE Norway rat.
 ORGANISM Rattus norvegicus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Ratus.

REFERENCE 1 (bases 1 to 175122)
 Muzny,D.M., Adams,C., Adio-Odunola,B., Al-Osman,F.R., Allen,C., Alsdorfs,S.L., Amaratunge,H.C., Are,J.R., Ayele,M., Banks,T., Barbic,J., Benton,J., Blincoe,K., Blumhagen,K., Bonini,D., Bouck,J., Bowler,S., Brileva,M., Brown,E., Brown,M., Bryant,N.P., Buay,C., Burch,P., Burkett,C., Burrell,K.L., Byrd,N.C., Carron,T.F., Carter,M., Cavazos,S.R., Chacko,J., Chavez,C., Chen,G., Chen,R., Chen,Z., Chowdhry,I., Christopoulos,D., Cleveland,C.D., Cox,C., Coyle,M.D., Dathorne,S.R., David,R., Davila,M.L., Davis,C., Davy-Carroll,L., Dederich,D.A., Delaney,K.R., Delgado,O., Denn,A.L., Ding,Y., Dinh,H.H., Douthwaite,K.J., Draper,H., Dugan-Rocha,S., Durbin,K.J., Earnhart,C., Edgar,D., Edwards,C.C., Elhaj,C., Escotto,M., Falls,T., Ferraguto,D., Flagg,N., Ford,J., Foster,P., Frantz,P., Gabisi,A., Gao,J., Garcia,A., Garner,T., Garza,N., Gill,R., Gorrell,J.H., Guetara,W., Gunaratne,P., Hale,S., Hamilton,K., Harris,C., Harris,K., Hart,M., Havlak,P., Hawes,A., Hernandez,J., Hernandez,O., Hodgson,A., Hogues,M., Holloway,C., Hollins,B., Homs,F., Howard,S., Huber,J., Huliyk,S., Hume,J., Jackson,L.E., Jacobson,B., Jia,Y., Johnson,R., Jolivet,S., Joudah,S., Karlsson,E., Kelly,S., Khan,U., King,L., Korvah,J., Kovar,C., Kratochvic,J., Kureshi,A., Landry,N., Leal,B., Lewis,L.C., Lewis,L., Li,J., Li,Z., Lichtarge,O., Lieu,C., Liu,J., Liu,W., Louiseged,H., Lozado,R.J., Lu,X., Lucier,A., Lucier,R., Luna,R., Ma,J., Maheshwari,M., Mapa,P., Martin,R., Martindale,A., Martinez,E., Massey,E., Mawhney,E., McLeod,M.P., Meador,M., Mei,G., Metzger,M., Miner,G., Miner,Z., Mitchell,T., Mohabat,K., Morgan,M., Morris,S., Moser,N., Neal,D., Newton,J., Newton,N., Nguyen,A., Nguyen,N., Nguyen,M., Nickerson,E., Nwokkenko,S., Ogund, G., Ogunyeye,N., Oviedo,R., Pace,A., Payton,B., Peery,J., Perez,L., Peters,L., Pickens,R., Primus,E., Pu,L.L., Quiles,M., Ren,Y., Rives,M., Rojas,A., Rojudoan,I., Rolfe,M., Ruiz,S., Severy,G., Scherer,S., Scott,G., Shen,H., Shooshari,N., Sisson,I., Sodergren,E., Sonalke,T., Sparks,A., Stanley,H., Stone,H., Sutton,A., Svatek,A., Tabor,P., Tamerisa,A., Tamerisa,K., Thomas,S., Tansley,J., Taylor,C., Taylor,T., Telford,B., Thomas,N., Thomas,S., Usman,K., Vasquez,L., Vera,V., Villalobos,D., Vinson,R., Wang,H., Wang,S., Ward-Moore,S., Warren,R., Washington,C., Wallington,S., Williams,G., Williamson,A., Wleczek,R., Wooden,S., Worley,K., Wu,C., Wu,Y., Wu,Y.F., Zhou,J., Zorrilla,S., Nelson,D., Weinstein,G., and Gibbs,R.

TITLE Direct Submission
 JOURNAL Unpublished
 REFERENCE 2 (bases 1 to 175122)
 Worley,K.C.
 TITLE Direct Submission
 JOURNAL Submitted (19-FEB-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
 REFERENCE 3 (bases 1 to 175122)
 Worley,K.C.
 TITLE Direct Submission
 JOURNAL Submitted (13-JUL-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
 COMMENT On Jul 12, 2002 this sequence version replaced g1:18701128.

----- Genome Center
 Center: Baylor College of Medicine
 Center code: BCM
 Web site: <http://www.hgsc.bcm.tmc.edu/>
 Contact: hgsc-help@bcm.tmc.edu
 ----- Project Information
 Center project name: GCMN
 Center clone name: CH230-89N15
 ----- Summary Statistics
 Sequencing vector: Plasmid
 Chemistry: Dye-terminator Big Dye 100% of reads
 Assembly program: Phrap; version 0.990329

Consensus quality: 111635 bases at least Q40
 Consensus quality: 118408 bases at least Q30
 Consensus quality: 122874 bases at least Q20

* NOTE: Estimated insert size may differ from sequence length
 * (see http://www.hgsc.bcm.tmc.edu/docs/genbank_draft_data.html).
 * NOTE: This is a 'working draft' sequence. It currently
 * consists of 78 contigs. The true order of the pieces
 * is not known and their order in this sequence record is
 * arbitrary. Gaps between the contigs are represented as
 * runs of N, but the exact sizes of the gaps are unknown.
 * This record will be updated with the finished sequence
 * as soon as it is available and the accession number will
 * be preserved.

1	1188:	contig of 1188 bp in length
1189	1288:	gap of unknown length
1289	2648:	contig of 1360 bp in length
2649	2748:	gap of unknown length
2749	3799:	contig of 1051 bp in length
3800	3899:	gap of unknown length
3900	5297:	contig of 1398 bp in length
5298	5397:	gap of unknown length
5398	6635:	contig of 1238 bp in length
6636	6735:	gap of unknown length
6736	7824:	contig of 1089 bp in length
7825	7924:	gap of unknown length
7925	9398:	contig of 1474 bp in length
9399	9498:	gap of unknown length
9499	10891:	contig of 1393 bp in length
10892	10991:	gap of unknown length
10992	12617:	contig of 1626 bp in length
12618	12717:	gap of unknown length
12718	13920:	contig of 1203 bp in length
13921	14020:	gap of unknown length
14021	15241:	contig of 1221 bp in length
15242	15341:	gap of unknown length
15342	16655:	contig of 1324 bp in length
16656	16765:	gap of unknown length
16766	17923:	contig of 1158 bp in length
17924	18023:	gap of unknown length
18024	19170:	contig of 1147 bp in length
19171	19370:	gap of unknown length
19371	20708:	contig of 1438 bp in length
20709	20808:	gap of unknown length
20809	22397:	contig of 1589 bp in length
22398	22497:	gap of unknown length
22498	24215:	contig of 1718 bp in length
24216	24315:	gap of unknown length
24316	25353:	contig of 1038 bp in length
25354	25453:	gap of unknown length
25454	26837:	contig of 1384 bp in length
26838	26937:	gap of unknown length
26938	28193:	contig of 1256 bp in length
28194	28293:	gap of unknown length
28294	29695:	contig of 1402 bp in length
29696	29795:	gap of unknown length
29796	31816:	contig of 2021 bp in length
31817	31916:	gap of unknown length
31917	33107:	contig of 1191 bp in length
33108	33207:	gap of unknown length
33208	34451:	contig of 1244 bp in length
34452	34551:	gap of unknown length
34552	36746:	contig of 2195 bp in length
36747	36846:	gap of unknown length
36847	38048:	contig of 1202 bp in length
38049	38148:	gap of unknown length
38149	39326:	contig of 1178 bp in length
39327	39426:	gap of unknown length
39427	40692:	contig of 1266 bp in length
40693	40792:	gap of unknown length
40793	42532:	contig of 1740 bp in length
42533	44820:	gap of unknown length
44820	44820:	contig of 2188 bp in length

```

* 44821 44920: gap of unknown length
* 44921 44928: contig of 1508 bp in length
* 44929 46528: gap of unknown length
* 46529 47912: contig of 1384 bp in length
* 47913 48012: gap of unknown length
* 48013 49235: contig of 1223 bp in length
* 49236 49335: gap of unknown length
* 49336 50712: contig of 1377 bp in length
* 50713 50812: gap of unknown length
* 50813 52715: contig of 1903 bp in length
* 52716 52815: gap of unknown length
* 52816 55006: contig of 2191 bp in length
* 55007 55106: gap of unknown length
* 55107 58060: contig of 2954 bp in length
* 58061 58160: gap of unknown length
* 58161 59425: contig of 1265 bp in length
* 59426 59525: gap of unknown length
* 59526 60863: contig of 1338 bp in length
* 60864 60963: gap of unknown length
* 60964 62722: contig of 1759 bp in length
* 62723 62822: gap of unknown length
* 62823 64115: contig of 1293 bp in length
* 64116 64215: gap of unknown length
* 64216 66265: contig of 2050 bp in length
* 66266 66365: gap of unknown length
* 66366 68310: contig of 1945 bp in length
* 68311 68410: gap of unknown length
* 68411 70424: contig of 2014 bp in length
* 70425 70524: gap of unknown length
* 70525 72377: contig of 1853 bp in length
* 72378 72477: gap of unknown length
* 72478 74732: contig of 2255 bp in length
* 74733 74832: gap of unknown length
* 74833 76449: contig of 1617 bp in length
* 76450 76549: gap of unknown length
* 76550 77682: contig of 1133 bp in length
* 77683 77782: gap of unknown length
* 77783 80458: contig of 2676 bp in length
* 80459 80558: gap of unknown length
* 80559 83243: contig of 2685 bp in length
* 83244 83343: gap of unknown length
* 83344 85798: contig of 2455 bp in length
* 85799 85898: gap of unknown length
* 85899 87752: contig of 1854 bp in length
* 87753 87852: gap of unknown length
* 87853 90255: contig of 2403 bp in length
* 90256 90355: gap of unknown length
* 90356 91582: contig of 1227 bp in length

```

Query Match Best Local Similarity 100.0%; Score 22; DB 2; Length 175122; Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 235 AAAAGGAGAGAAAAGAGACCA 256
Db 89394 AAAAGGAGAGAAAAGAGACCA 89373

RESULT 8
AC115967
LOCUS AC115967 221789 bp DNA linear HTG 26-JUN-2002
DEFINITION Mus musculus clone RP24-72G22, WORKING DRAFT SEQUENCE, 12 ordered
pieces.
AC115967
VERSION AC115967.3 GI:21592021
KEYWORDS HTG: HTGS_PHASE2; HTGS_DRAFT; HTGS_FULLTOP.
SOURCE house mouse.
ORGANISM Mus musculus.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
REFERENCE
1 (bases 1 to 221789)
AUTHORS Birren B., Linton L., Nusbaum C. and Lander E.
TITLE Mus musculus, clone RP24-72G22

JOURNAL REFERENCE AUTHORS

Unpublished
2 (bases 1 to 221789)
Birren B., Linton L., Nusbaum C., Lander E., Ali A., Allen N.,
Anderson S., Barna N., Bastien V., Bloom T., Boguslavsky L.,
Boukhgalter B., Brown A., Camarata J., Campopiano A., Chang J.,
Chazaro B., Choepel Y., Colangelo M., Collins S., Collymore A.,
Cook A., Cooke P., Dearellano K., Dewar K., Diaz J.S., Dodge S.,
Faro S., Ferreira P., Fitzhugh W., Gage D., Galagan J., Gardyna S.,
Ginde S., Gord S., Goyette M., Graham L., Grand-Pierre N.,
Hagos B., Horton L., Hulme W., Iliev I., Johnson R., Jones C.,
Kamat A., Karatas A., Kells C., Lacroque K., Lamazares R.,
Landers T., Lehoczy J., Levine R., Lindblad-Toh K., Liu G.,
Maclean C., Macdonald P., Major J., Margulis N., Matthews C.,
McCarthy M., McEwan P., McKernan K., Meldrum J., Menus L.,
Mihova T., Mienga V., Murphy T., Naylor J., Nguyen C., Nicol R.,
Norbu C., Norman C.H., O'Connor T., O'Donnell P., O'Neill D.,
Oliver J., Peterson K., Phunkhang P., Pierre N., Pollara V.,
Raymond C., Retta R., Rieback M., Riley R., Rise C., Rogov P.,
Roman J., Rosetti M., Roy A., Santos R., Schauer S., Schupack R.,
Seaman S., Severy P., Spencer B., Strange-Thomann N., Stojanovic N.,
Strauss N., Subramanian A., Talamas J., Tesfaye S., Theodore J.,
Topham K., Travers M., Travis N., Triggillo J., Vassiliev H.,
Viel R., Vo A., Wilson B., Wu X., Wyman D., Ye W.J., Young G.,
Zainoun J., Zembek L., Zimmer A. and Zody M.
Direct Submission
Submitted (22-MAR-2002) Whitehead Institute/MIT Center for Genome
Research, 320 Charles Street, Cambridge, MA 02141, USA
3 (bases 1 to 221789)

JOURNAL REFERENCE AUTHORS

Birren B., Linton L., Nusbaum C., Lander E., Ali A., Allen N.,
Anderson S., Barna N., Bastien V., Bloom T., Boguslavsky L.,
Boukhgalter B., Brown A., Camarata J., Campopiano A., Chang J.,
Chazaro B., Choepel Y., Colangelo M., Collins S., Collymore A.,
Cook A., Cooke P., Dearellano K., Dewar K., Diaz J.S., Dodge S.,
Faro S., Ferreira P., Fitzhugh W., Gage D., Galagan J., Gardyna S.,
Ginde S., Gord S., Goyette M., Graham L., Grand-Pierre N.,
Hagos B., Horton L., Hulme W., Iliev I., Johnson R., Jones C.,
Kamat A., Karatas A., Kells C., Lacroque K., Lamazares R.,
Landers T., Lehoczy J., Levine R., Lindblad-Toh K., Liu G.,
Maclean C., Macdonald P., Major J., Margulis N., Matthews C.,
McCarthy M., McEwan P., McKernan K., Meldrum J., Menus L.,
Mihova T., Mienga V., Murphy T., Naylor J., Nguyen C., Nicol R.,
Norbu C., Norman C.H., O'Connor T., O'Donnell P., O'Neill D.,
Oliver J., Peterson K., Phunkhang P., Pierre N., Pollara V.,
Raymond C., Retta R., Rieback M., Riley R., Rise C., Rogov P.,
Roman J., Rosetti M., Roy A., Santos R., Schauer S., Schupack R.,
Seaman S., Severy P., Spencer B., Strange-Thomann N., Stojanovic N.,
Strauss N., Subramanian A., Talamas J., Tesfaye S., Theodore J.,
Topham K., Travers M., Travis N., Triggillo J., Vassiliev H.,
Viel R., Vo A., Wilson B., Wu X., Wyman D., Ye W.J., Young G.,
Zainoun J., Zembek L., Zimmer A. and Zody M.
Direct Submission
Submitted (26-JUN-2002) Whitehead Institute/MIT Center for Genome
Research, 320 Charles Street, Cambridge, MA 02141, USA
On Jun 26, 2002 this sequence version replaced gi:21536113.
All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html

TITLE JOURNAL COMMENT

Center: Whitehead Institute/ MIT Center for Genome Research
Center code: WIDR
Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
----- Project Information
Center project name: L24966
Center clone name: 72.G.22
----- Summary Statistics
Sequencing vector: Plasmid; n/a; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.960731
Consensus quality: 217259 bases at least Q40
Consensus quality: 219286 bases at least Q30
Consensus quality: 220096 bases at least Q20
Insert size: 226000; agarose-fp

Insert size: 220689; sum-of-contrigs
Quality coverage: 6.6 in Q20 bases; agarose-fp
Quality coverage: 6.7 in Q20 bases; sum-of-contrigs

* NOTE: This is a 'working draft' sequence. It currently
* consists of 12 contrigs. Gaps between the contrigs
* are represented as runs of N. The order of the pieces
* is believed to be correct as given, however the sizes
* of the gaps between them are based on estimates that have
* provided by the submittor.

* This sequence will be replaced
* by the finished sequence as soon as it is available and
* the accession number will be preserved.

1 1134: contig of 1134 bp in length
1135 1234: gap of 100 bp
1235 3567: contig of 2333 bp in length
3568 3667: gap of 100 bp
3668 4915: contig of 1248 bp in length
4916 5015: gap of 100 bp
5016 8383: contig of 3368 bp in length
8384 8483: gap of 100 bp
8484 11058: contig of 2575 bp in length
11059 11158: gap of 100 bp
11159 11577: contig of 4419 bp in length
11578 15677: gap of 100 bp
15678 26269: contig of 10592 bp in length
26270 26369: gap of 100 bp
26370 36680: contig of 10311 bp in length
36681 36780: gap of 100 bp
36781 53578: contig of 16798 bp in length
53579 53678: gap of 100 bp
53679 73051: contig of 19373 bp in length
73052 73151: gap of 100 bp
73152 138372: contig of 65221 bp in length
138373 138472: gap of 100 bp
138473 221789: contig of 83317 bp in length.

FEATURES

SOURCE

1. 221789
/organism="Mus musculus"
/db_xref="taxon:10090"
/clone="RP24-72G22"
/clone.lib="RPCT-24 Male Mouse BAC"
1. 1134
/note="assembly_fragment"
1235. 3567
/note="assembly_fragment"
3668. 4915
/note="assembly_fragment"
5016. 8383
/note="assembly_fragment"
8484. 11058
/note="assembly_fragment"
11159. 11577
/note="assembly_fragment"
15678. 26269
/note="assembly_fragment"
26370. 36680
/note="assembly_fragment"
36781. 53578
/note="assembly_fragment"
53679. 73051
/note="assembly_fragment"
73152. 138372
/note="assembly_fragment"
138473. 221789
/note="assembly_fragment"
BASE COUNT 70378 a 41782 c 41323 g 67204 t 1102 others
ORIGIN

Query Match 6.1%; Score 22; DB 2; Length 221789;
Best Local Similarity 100.0%; Pred. No. 0.51;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 205 CTCCTCCCTACCTTTCATATAG 226
Db 79199 CTCCTCCCTACCTTTCATATAG 79220

RESULT 9
AF222915 133 bp DNA linear MAM 19-DEC-2000
LOCUS
DEFINITION Sus scrofa costimulatory B-lymphocyte antigen B7-2 (CD86) gene,
exon 5 and partial cds.

ACCESSION AF222915.1 GI:11890419
VERSION
KEYWORDS
SOURCE
ORGANISM

Sus scrofa.
Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.
1 (bases 1 to 133)
Van Poucke,M., Yerle,M., Tuggle,C., Chardon,P., Van Zeveren,A. and
Peelman,L.J.
Integration of porcine chromosome 13 maps

REFERENCE 2 (bases 1 to 133)
AUTHORS Van Poucke,M. and Peelman,L.J.
TITLE Direct Submission
JOURNAL Submitted (11-JAN-2000) Department of Animal Nutrition, Genetics,
Breeding and Ethology, University of Ghent, Heidestraat 19,
Mellebeke, O-VL 9820, Belgium

FEATURES

SOURCE

1. 133
/organism="Sus scrofa"
/db_xref="taxon:9823"
/chromosome="13"
/map="between ADCY5 and SM1876"
/note="breed: Belgian Landrace"
1. .>133
/gene="CD86"
1. .>133
/gene="CD86"
1. .>133
/product="costimulatory B-lymphocyte antigen B7-2"
1. .>133
/gene="CD86"
/codon_start=3
/product="costimulatory B-lymphocyte antigen B7-2"
/protein_id="AAG41128.1"
/db_xref="gi:11890420"
/translation="YPEPQRMVMLNTKNSSTTEHDADKKSKQNNITELYNSIVSLP
"

exon

<1. .>133
/gene="CD86"
/number=5
BASE COUNT 47 a 31 c 24 g 31 t ;
ORIGIN

Query Match 5.8%; Score 21; DB 4; Length 133;
Best Local Similarity 100.0%; Pred. No. 3.6;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 78 CATGAGAAATCTCAAAATAA 98
Db 71 CATGAGAAATCTCAAAATAA 91

RESULT 10

BTA291475 924 bp mRNA linear -MAM 14-OCT-2000
DEFINITION Bos taurus partial mRNA for CD86 antigen (CD86 gene).
ACCESSION AJ291475
VERSION AJ291475.1 GI:10803379
KEYWORDS B7-2; CD86 antigen; CD86 gene.

SOURCE

Bos taurus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovidae; Bovinae; Bos.
1 (bases 1 to 924)
AUTHORS Brooke G.P., Howard C.J. and Parsons K.R.
TITLE Cloning and distribution of cattle CD86
JOURNAL Unpublished
REFERENCE 2 (bases 1 to 924)
AUTHORS Brooke G.P.
TITLE Direct Submission
JOURNAL Submitted (12-OCT-2000) Brooke G.P., Cellular Immunology, Institute
For Animal Health, Compton, Berks, RG20 7NN, UNITED KINGDOM

FEATURES
Source
Location/Qualifiers
1..924
/organism="Bos taurus"
/db_xref="taxon:9913"
/cell_type="monocyte"
/tissue_type="peripheral blood"
/dev_stage="adult"
/country="United Kingdom"
72..924
/gene="CD86"
72..>924
/gene="CD86"
/function="Immune response"
/codon_start=1
/protein_id="CA13140.1"
/db_xref="GI:10803380"
/translation="MRKCTMGLRNILMGMALELSVSKVPFSGAASLKSHAFNETGE
LPCHFTPTONLSDELYIEWDONKLVLELFGQDKPNVNPVKYIGRTSPQDSMTL
RLHNWQIKDYGSGCFIHRRSQGLVSIHOMSDLIIVANFSQPEIRLIANDTEKSN
INLCSIOGYPPEORMYVSLNTNNSSTIDAVAMKCSNITELVNSISVFPIPE
TNVIFCALPLEPKIILSQPNIDAKSPSPVPDHLIALLLVTVVSGWELT
LKKKKKRL"

BASE COUNT 295 a 226 c 175 g 228 t
ORIGIN

Query Match 5.8%; Score 21; DB 4; Length 924;
Best Local Similarity 100.0%; Pred. No. 3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTACCCGAACT 21
DB 573 ATACAAGGTACCCGAACT 593

RESULT 11
LOCUS PIGCD86G 994 bp mRNA linear MAM 17-JUN-1997
DEFINITION Sus scrofa CD86 mRNA, complete cds.
ACCESSION U76099.1 GI:2198558
VERSION 1
KEYWORDS T cell costimulation.
SOURCE Sus scrofa.
ORGANISM Sus scrofa.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
1 (bases 1 to 994)
AUTHORS Maher, S.E., Karmann, K., Min, W., Hughes, C.C., Pober, J.S. and
Bothwell, A.L.
TITLE Porcine endothelial CD86 is a major costimulator of xenogeneic
human T cells: cloning, sequencing, and functional expression in
human endothelial cells
JOURNAL J. Immunol. 157 (9), 3838-3844 (1996)
MEDLINE 97047772
PUBMED 8852613
COMMENT GSDB:S:74002
FEATURES
Source
Location/Qualifiers
1..994
/organism="Sus scrofa"
/db_xref="taxon:9823"
/cell_line="PEC-A"
/cell_type="endothelial"

/clone_lib="3"
/dev_stage="adult"
1..994
/gene="CD86"
1..978
/gene="CD86"
/standard_name="B7-2"
/note="putative"
/codon_start=1
/protein_id="AAB61307.1"
/db_xref="GI:2198559"
/translation="MGLSNILFVWILLSGAASIKSOAFNETGELPCFTPTONLSL
DELYIEWDONKLVLELFGQDKPNVNPVKYIGRTSPQDSMTLRLHNWQIKDYGSGCFI
HRRSQGLVSIHOMSDLIIVANFSQPEIRLIANDTEKSNINLCSIOGYPPEORMYVSL
NTNNSSTIDAVAMKCSNITELVNSISVFPIPE TNVIFCALPLEPKIILSQPNIDAKSP
SPVPDHLIALLLVTVVSGWELT LKKKKKRL"

3'UTR
/gene="CD86"
/note="putative"
994
/gene="CD86"
/evidence="experimental"

polyA-site
BASE COUNT 302 a 241 c 202 g 249 t
ORIGIN

Query Match 5.8%; Score 21; DB 4; Length 994;
Best Local Similarity 100.0%; Pred. No. 3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 78 CATGAAGAATCTCAAAATAA 98
DB 537 CATGAAGAATCTCAAAATAA 557

RESULT 12
LOCUS AX027016 994 bp DNA linear PAT 16-SEP-2000
DEFINITION Sequence 13 from Patent WO0037102.
ACCESSION AX027016
VERSION AX027016.1 GI:10188045
KEYWORDS
SOURCE Pig.
ORGANISM Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
1 (bases 1 to 994)
AUTHORS Rogers, N.J., Dorling, A. and Lechler, R.I.
TITLE Immunosuppression
JOURNAL Patent: WO 0037102-A 13 29-JUN-2000;
ROGERS NICHOLA JANE (GB) ; DORLING ANTHONY (GB) ; ML LAB PLC (GB) ;
LECHLER ROBERT IAN (GB)
FEATURES
Source
Location/Qualifiers
1..994
/organism="Sus scrofa"
/db_xref="taxon:9823"

BASE COUNT 302 a 241 c 202 g 249 t
ORIGIN

Query Match 5.8%; Score 21; DB 6; Length 994;
Best Local Similarity 100.0%; Pred. No. 3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 78 CATGAAGAATCTCAAAATAA 98
DB 537 CATGAAGAATCTCAAAATAA 557

RESULT 13
LOCUS AC099866 53785 bp DNA linear HTG 22-NOV-2001
DEFINITION Mus musculus clone Rp23-7M22, LOW-PASS SEQUENCE SAMPLING.
ACCESSION AC099866

```

VERSION      AC099866.1 GI:17047232
KEYWORDS     HTGS_PHA5E0.
SOURCE       Mus musculus.
ORGANISM     Mus musculus
REFERENCE    Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
TITLE        1 (bases 1 to 53785)
AUTHORS      Birren, B., Linton, L., Nusbaum, C. and Lander, E.
JOURNAL      Mus musculus, clone RP23-7M22
REFERENCE    Unpublished
AUTHORS      2 (bases 1 to 53785)
              Birren, B., Linton, L., Nusbaum, C., Lander, E., All, A., Allen, N.,
              Anderson, S., Barre, N., Bastien, V., Boguslavsky, L., Boukhalter, B.,
              Brown, A., Camarata, J., Campopiano, A., Chang, J., Chazaro, B.,
              Choepel, Y., Collangelo, M., Collins, S., Collymore, A., Cook, A.,
              Cooke, P., Dearellano, K., Dewar, K., Diaz, J.S., Dodge, S., Fair, S.,
              Ferreira, P., Fitzhugh, W., Gage, D., Galagan, J., Gardyna, S.,
              Ginde, S., Gord, S., Coyette, M., Graham, L., Grand-Pierre, N.,
              Hagos, B., Heatford, A., Horton, L., Hulme, W., Iliev, I., Johnson, R.,
              Jones, C., Kamat, A., Karatas, A., Kellis, C., LaRocque, K.,
              Lamaszates, R., Landers, T., Lehoczy, J., Levine, R., Liu, G.,
              Maclean, C., MacDonald, P., Major, J., Marquis, N., Matthews, C.,
              McCarthy, M., McDermott, P., McKernan, K., McPheters, R., Meldrum, J.,
              Menes, L., Mihova, T., Mienna, V., Murphy, T., Naylor, J., Nguyen, C.,
              Norbu, C., Norman, C.H., O'Connor, T., O'Donnell, P., O'Neill, D.,
              Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V.,
              Raymond, C., Retta, R., Rieback, M., Riley, R., Rise, C., Rogov, P.,
              Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schupbach, R.,
              Seaman, S., Severy, P., Spencer, B., Stange-Thumann, N., Stojanovic, N.,
              Strauss, N., Subramanian, A., Talamas, J., Testaye, S., Theodore, J.,
              Topham, K., Travers, M., Travis, N., Triggillo, J., Vassiliev, H.,
              Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W.J., Young, G.,
              Zainoun, J., Zembek, L., Zimmer, A. and Zody, M.
DIRECT SUBMISSION
Submitted (22-NOV-2001) Whitehead Institute/MIT Center for Genome
Research, 320 Charles Street, Cambridge, MA 02141, USA
All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
----- Genome Center
Center: Whitehead Institute/ MIT Center for Genome Research
Center code: WIBR
Web site: http://www.seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
----- Project Information
Center project name: L13416
Center clone name: 7_M_22
-----
* NOTE: This record contains 65 individual
* sequencing reads that have not been assembled into
* contigs. Runs of N are used to separate the reads
* and the order in which they appear is completely
* arbitrary. Low-pass sequence sampling is useful for
* identifying clones that may be gene-rich and allows
* overlap relationships among clones to be deduced.
* However, it should not be assumed that this clone
* will be sequenced to completion. In the event that
* the record is updated, the accession number will
* be preserved.
*
* 1
* 702 801: gap of 100 bp in length
* 802 1542: contig of 741 bp in length
* 1543 1642: gap of 100 bp
* 1643 2386: contig of 744 bp in length
* 2387 2486: gap of 100 bp
* 2487 3171: contig of 685 bp in length
* 3172 3271: gap of 100 bp
* 3272 4001: contig of 730 bp in length
* 4002 4101: gap of 100 bp
* 4102 4845: contig of 744 bp in length
* 4846 4945: gap of 100 bp
* 4946 5673: contig of 728 bp in length
* 5674 5773: gap of 100 bp

```

```

* 5774 6510: contig of 737 bp in length
* 6511 6610: gap of 100 bp
* 6611 7337: contig of 727 bp in length
* 7338 7437: gap of 100 bp
* 7438 8185: contig of 748 bp in length
* 8186 8285: gap of 100 bp
* 8286 9018: contig of 733 bp in length
* 9019 9118: gap of 100 bp
* 9119 9858: contig of 740 bp in length
* 9859 9958: gap of 100 bp
* 9959 10695: contig of 737 bp in length
* 10696 10795: gap of 100 bp
* 10796 11518: contig of 723 bp in length
* 11519 11618: gap of 100 bp
* 11619 12335: contig of 717 bp in length
* 12336 12435: gap of 100 bp
* 12436 13170: contig of 735 bp in length
* 13171 13270: gap of 100 bp
* 13271 13993: contig of 723 bp in length
* 13994 14093: gap of 100 bp
* 14094 14826: contig of 733 bp in length
* 14827 14926: gap of 100 bp
* 14927 15662: contig of 736 bp in length
* 15663 15762: gap of 100 bp
* 15763 16427: contig of 665 bp in length
* 16428 16527: gap of 100 bp
* 16528 17261: contig of 734 bp in length
* 17262 17361: gap of 100 bp
* 17362 18087: contig of 726 bp in length
* 18088 18187: gap of 100 bp
* 18188 18925: contig of 738 bp in length
* 18926 19025: gap of 100 bp
* 19026 19758: contig of 733 bp in length
* 19759 19858: gap of 100 bp
* 19859 20587: contig of 729 bp in length
* 20588 20687: gap of 100 bp
* 20688 21404: contig of 717 bp in length
* 21405 21504: gap of 100 bp
* 21505 22257: contig of 753 bp in length
* 22258 22357: gap of 100 bp
* 22358 23073: contig of 716 bp in length
* 23074 23173: gap of 100 bp
* 23174 23915: contig of 742 bp in length
* 23916 24015: gap of 100 bp
* 24016 24755: contig of 740 bp in length
* 24756 24855: gap of 100 bp
* 24856 25593: contig of 738 bp in length
* 25594 25693: gap of 100 bp
* 25694 26397: contig of 704 bp in length
* 26398 26497: gap of 100 bp
* 26498 27229: contig of 732 bp in length
* 27230 27329: gap of 100 bp
* 27330 28072: contig of 743 bp in length
* 28073 28172: gap of 100 bp
* 28173 28890: contig of 718 bp in length
* 28891 28990: gap of 100 bp
* 28991 29708: contig of 718 bp in length
* 29709 29808: gap of 100 bp
* 29809 30532: contig of 724 bp in length
* 30533 30632: gap of 100 bp
* 30633 31385: contig of 753 bp in length
* 31386 31485: gap of 100 bp
* 31486 32223: contig of 728 bp in length
* 32224 32323: gap of 100 bp
* 32324 33065: contig of 742 bp in length
* 33066 33165: gap of 100 bp
* 33166 33888: contig of 723 bp in length
* 33889 33988: gap of 100 bp
* 33989 34713: contig of 725 bp in length
* 34714 34813: gap of 100 bp
* 34814 35550: contig of 737 bp in length
* 35551 35650: gap of 100 bp
* 35651 36377: contig of 727 bp in length

```


GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:04 ; Search time 98.9171 Seconds
(without alignments)
8173.182 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359

Sequence: 1 atacaaggtaccagaacc.....ggcgacaagaactacacaca 359

Scoring table:

OLIGO.NUC
Gapop 60.0 , Gapext 60.0

Searched: 2185239 seqs, 112599159 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

N.Geneseq_101002.*
1: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT.*
2: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT.*
3: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT.*
4: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT.*
5: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT.*
6: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT.*
7: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT.*
8: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT.*
9: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT.*
10: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT.*
11: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT.*
12: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT.*
13: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT.*
14: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT.*
15: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT.*
16: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT.*
17: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT.*
18: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT.*
19: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT.*
20: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT.*
21: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT.*
22: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT.*
23: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT.*
24: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	359	100.0	359	20	AAZ27935
2	359	100.0	359	20	AAZ27936
3	227	63.2	509	20	AAZ27933
4	227	63.2	509	20	AAZ27934
5	227	63.2	996	20	AAZ27931
6	227	63.2	996	20	AAZ27932
7	227	63.2	1080	21	AAZ34838
8	227	63.2	1080	21	AAZ34785
9	227	63.2	1080	24	AAZ46840

10	227	63.2	1080	24	ABK48230	CDNA encoding feli
11	227	63.2	2830	20	AAZ27929	Feline B7-2 protei
12	227	63.2	2830	20	AAZ27930	Feline B7-2 gene c
13	42	11.7	840	20	AAZ27923	Canine B7-2S prote
14	42	11.7	840	20	AAZ27924	Complementary stra
15	42	11.7	987	20	AAZ27915	Canine B7-2 protei
16	42	11.7	987	20	AAZ27916	Complementary stra
17	42	11.7	1795	20	AAZ27921	Canine B7-2S prote
18	42	11.7	1795	20	AAZ27922	Canine B7-2S gene
19	42	11.7	1897	20	AAZ27913	Canine B7-2 protei
20	42	11.7	1897	20	AAZ27914	Canine B7-2 gene c
21	21	5.8	1050	21	AAA49661	Pig costimulatory
22	20	5.6	20	20	AAZ27949	Feline B7-2 gene s
23	20	5.6	20	20	AAZ27950	Feline B7-2 gene s
24	19	5.3	2463	22	AAH42341	Nucleotide sequenc
25	19	5.3	5819	23	ABL05600	Drosophila melanog
26	18	5.0	21	24	ABK14368	Human B7-2 antisen
27	18	5.0	33	20	AAZ27957	Feline B7-2 gene s
28	18	5.0	98	22	AAE83551	B. gymnorhiza sal
29	18	5.0	210	16	AAE01038	Human B7-2 exon 5.
30	18	5.0	306	18	AAE49198	Human B lymphocyte
31	18	5.0	306	21	AAE84083	Human B7-2 constan
32	18	5.0	405	22	AAE65532	Novel human polynu
33	18	5.0	470	24	ABL38441	Human colon tumour
34	18	5.0	738	20	AAE80293	Human B7-2 extrace
35	18	5.0	738	22	AAE89731	Nucleotide sequenc
36	18	5.0	831	19	AAE03230	DNA encoding Cpb6
37	18	5.0	837	20	AAO74396	Isoform Ig11 of th
38	18	5.0	972	20	AAE83208	B7-2 cDNA. Homo s
39	18	5.0	972	24	AAE25510	Human co-stimulato
40	18	5.0	1120	16	AAO81351	Human B lymphocyte
41	18	5.0	1120	18	AAE49181	Human B lymphocyte
42	18	5.0	1120	20	AAE55784	Human B7-2 antigen
43	18	5.0	1120	21	AAE84049	Human B lymphocyte
44	18	5.0	1120	24	AAE27968	Human B7-2 cDNA.
45	18	5.0	1284	23	ABL11655	Drosophila melanog
46	18	5.0	1424	21	AAE29321	Human B7.2 cDNA.
47	18	5.0	1424	24	ABE84193	Human cDNA differe
48	18	5.0	1424	24	ABE63096	Breast cancer rela
49	18	5.0	1424	24	ABE64678	Stomach cancer rel
50	18	5.0	1428	24	ABE65873	B70 type B antigen
51	18	5.0	1502	20	AAE23222	A. thaliana EL6 DN
52	18	5.0	1638	21	AAE39109	Arabidopsis thalia
53	18	5.0	1840	21	AAE44659	Arabidopsis thalia
54	18	5.0	1857	21	AAE45219	Arabidopsis thalia
55	18	5.0	2205	22	AAE72616	Human cervical can
56	18	5.0	2876	23	ABL11666	Drosophila melanog
57	18	5.0	3284	23	ABL11654	Drosophila melanog
58	18	5.0	3722	20	AAE84180	Arabidopsis very 1
59	18	5.0	5643	24	ABE93133	Human prostate spe
60	18	5.0	151826	21	AAE22291	BAC containing rep
61	17	4.7	18	17	AAE67104	Human B7-2 hairpin
62	17	4.7	184	22	ABE47226	Human breast cell
63	17	4.7	184	22	ABE65111	Human foetal liver
64	17	4.7	184	22	ABE32214	Human foetal liver
65	17	4.7	184	22	AAE39270	Human bone marrow
66	17	4.7	184	22	AAI20082	Human bone marrow
67	17	4.7	184	22	AAI45281	Probe #13967 used
68	17	4.7	184	22	AAI05788	Probe #5779 used t
69	17	4.7	184	24	ABE13356	Human genome deriv
70	17	4.7	184	22	AAH70946	Human cervical can
71	17	4.7	354	22	ABE42072	Human breast cell
72	17	4.7	354	22	ABE52494	Human foetal liver
73	17	4.7	354	22	ABE22284	Probe #750 for gen
74	17	4.7	354	22	AAE26211	Human bone marrow
75	17	4.7	354	22	AAI10843	Probe #776 for gen
76	17	4.7	354	22	AAI32102	Probe #788 used to
77	17	4.7	354	22	AAI00767	Probe #758 used to
78	17	4.7	429	24	ABE00798	Human genome deriv
79	17	4.7	429	23	ABE23717	Drosophila melanog
80	17	4.7	481	24	ABE79123	Bacillus clausii g
81	17	4.7	583	22	AAE12063	Human brain expres
82	17	4.7	583	22	AAE37798	Human bone marrow

83	17	4.7	583	22	AA118553	Probe #8486 for ge
84	17	4.7	583	24	ABSI11789	Human genome-deriv
85	17	4.7	1125	22	AAH29566	Drosophila melanog
86	17	4.7	1228	23	ABL08761	Drosophila melanog
87	17	4.7	1273	21	AAFI4181	Aspergillus oryzae
88	17	4.7	1788	19	AAV33887	H. tuberculosis cytol.
89	17	4.7	1811	22	AAH72700	Human cervical can
90	17	4.7	1811	23	ABV22582	Human prostate exp
91	17	4.7	1811	23	ABV22682	Human prostate exp
92	17	4.7	1966	21	AAC95570	Human secreted pro
93	17	4.7	1975	22	AAK71195	Human immune/haema
94	17	4.7	2024	24	ABO54608	Human ovarian anti
95	17	4.7	2429	23	ABL23716	Drosophila melanog
96	17	4.7	3228	23	ABL08760	Drosophila melanog
97	17	4.7	3268	23	ABL08696	Drosophila melanog
98	17	4.7	3504	23	ABL08570	Drosophila melanog
99	17	4.7	3581	23	ABL10966	Drosophila melanog
100	17	4.7	3761	20	AAK09013	Murine axin gene.

ALIGNMENTS

RESULT 1	
AA227935	
ID	AA227935 standard; DNA; 359 BP.
XX	
AC	AA227935;
XX	
DT	20-DEC-1999 (first entry)
XX	
DE	Feline B7-2 protein (smaller fragment) encoding DNA.
XX	
KW	B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease; allergic reaction; infectious disease; tumor development; feline; graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX	
OS	Felis catus.
XX	
PN	W09947558-A2.
XX	
PD	23-SEP-1999.
XX	
PF	19-MAR-1999; 99WO-US06187.
XX	
PR	19-MAR-1998; 98US-0078765.
PR	17-APR-1998; 98US-0062597.
XX	
PA	(HESK-) HESKA CORP.
XX	
PI	Sim G, Yang S, Sellins KS;
XX	
DR	WPI: 1999-571822/48.
DR	P-PSDB: AAY41081.
XX	
PT	New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g. autoimmune and atopic diseases
PT	-
XX	
PS	Claim 1; Page 127-128; 148pp; English.
XX	
CC	The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoding nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthritis and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening.
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC	
CC</	

Best Local Similarity 100.0%; Pred. No. 4,1e-173;
Matches 359; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	ATCAAGGTTACCCAGACCTAAGAGATGATTTTACGTAACCTAGAAATTAAC	60
DB	1	ATCAAGGTTACCCAGACCTAAGAGATGATTTTACGTAACCTAGAAATTAAC	60
QY	61	ACTAAGTATGATCTGATGAGAAATCTCAAAATATGTGACAGAACTGTACAAGTT	120
DB	61	ACTAAGTATGATCTGATGAGAAATCTCAAAATATGTGACAGAACTGTACAAGTT	120
QY	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACAATGTAGGCTCTTTTGTGCTTG	180
DB	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACAATGTAGGCTCTTTTGTGCTTG	180
QY	181	AACTGGAGACCTGGAGATGCTGCTCCCTCTTCAATATGAAACATCAAAAG	240
DB	181	AACTGGAGACCTGGAGATGCTGCTCCCTCTTCAATATGAAACATCAAAAG	240
QY	241	GAGAGAAAGAGACCAACAGACCAAGAAAGTACATACCTACCTGAGAGATCT	300
DB	241	GAGAGAAAGAGACCAACAGACCAAGAAAGTACATACCTACCTGAGAGATCT	300
QY	301	GATGAGCCCGAGTGTATTACATTTTGAAGACAGCTCAGGCGACAAAGTACTACACA	359
DB	301	GATGAGCCCGAGTGTATTACATTTTGAAGACAGCTCAGGCGACAAAGTACTACACA	359

RESULT 2					
AA227936/C	standard; DNA; 359 BP.				
AA227936					
AC	AA227936;				
DT	20-DEC-1999 (first entry)				
XX	Feline B7-2 gene (smaller fragment) complementary DNA sequence.				
DE					
XX	B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;				
KW	allergic reaction; infectious disease; tumor development; feline;				
KW	graft rejection; inflammation; arthritis; atopic dermatitis; ss.				
XX					
OS	Felis catus.				
XX					
PN	W09947558-A2.				
XX					
PD	23-SEP-1999.				
XX					
PE	19-MAR-1999; 99WO-US06187.				
XX					
PR	19-MAR-1998; 98US-0078765.				
PR	17-APR-1998; 98US-0062597.				
XX					
PA	(HESK-) HESKA CORP.				
XX					
PI	Sim G, Yang S, Sellins KS;				
XX					
DR	WPI: 1999-571822/48.				
XX					
PT	New isolated B7 and CTLA4 nucleic acids, used to develop products for				
PT	treating, e.g. autoimmune and atopic diseases				
XX					
XX	Claim 1; Page 129; 148pp; English.				
PS					
XX	The invention provides B7 and CTLA4 (T cell costimulatory proteins)				
CC	encoding nucleic acid molecules from dogs and cats. The proteins can be				
CC	expressed by standard recombinant methodology. The nucleic acid molecules				
CC	and the encoded proteins can be used for preventing or treating diseases,				
CC	e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor				
CC	development, graft rejection, inflammation, arthritis and atopic diseases				
CC	such as atopic dermatitis. They can be used in mammals such humans, dogs,				
CC	cats, cattle, sheep or pets. The products can also be used for detection,				
CC	diagnosis and drug screening.				

XX Sequence 359 BP; 83 A; 69 C; 79 G; 128 T; 0 other;

Query Match 100.0%; Score 359; DB 20; Length 359;

Best Local Similarity 100.0%; Pred. No. 4,1e-173; Mismatches 0; Indels 0; Gaps 0;

Matches 359; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAGAAATCAACT 60
 |||
 Db 359 ATACAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAGAAATCAACT 300
 QY 61 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACGAACTGTACAACTT 120
 |||
 Db 299 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACGAACTGTACAACTT 240
 QY 121 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGGCTCTTTTGCCCTG 180
 |||
 Db 239 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGGCTCTTTTGCCCTG 180
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATGAAACATCAAAAG 240
 |||
 Db 179 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATGAAACATCAAAAG 120
 QY 241 GAGAGAAAAGAGACAAACAGACCAAGAGATACCTACCACTGACCTGAGAGATCT 300
 |||
 Db 119 GAGAGAAAAGAGACAAACAGACCAAGAGATACCTACCACTGACCTGAGAGATCT 60
 QY 301 GATGAGCCCGATGATTTTACATTTTGAAGACAGCCCTGAGGAGCAAAAGTACTACACA 359
 |||
 Db 59 GATGAGCCCGATGATTTTACATTTTGAAGACAGCCCTGAGGAGCAAAAGTACTACACA 1

RESULT 3

AAZ27933
 ID AAZ27933 standard; DNA; 509 BP.

AC AAZ27933;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 protein (larger fragment) encoding DNA.

KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PSDB; AAY41080.

PS Claim 1; Page 125-126; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)

CC encoding nucleic acid molecules from dogs and cats. The proteins can be

CC expressed by standard recombinant methodology. The nucleic acid molecules

CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX Sequence 509 BP; 170 A; 109 C; 106 G; 124 T; 0 other;

Query Match 63.2%; Score 227; DB 20; Length 509;

Best Local Similarity 100.0%; Pred. No. 9e-106; Mismatches 0; Indels 0; Gaps 0;

Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAGAAATCAACT 60
 |||
 Db 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAGAAATCAACT 60
 QY 61 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACGAACTGTACAACTT 120
 |||
 Db 61 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACGAACTGTACAACTT 120
 QY 121 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGGCTCTTTTGCCCTG 180
 |||
 Db 121 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGGCTCTTTTGCCCTG 180
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATGAGA 227
 |||
 Db 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATGAGA 227

RESULT 4

AAZ27934/C
 ID AAZ27934 standard; DNA; 509 BP.

AC AAZ27934;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 gene (larger fragment) complementary DNA sequence.

KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PSDB; AAY41080.

PS Claim 1; Page 127; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)

CC encoding nucleic acid molecules from dogs and cats. The proteins can be

CC expressed by standard recombinant methodology. The nucleic acid molecules

CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor

CC development, graft rejection, inflammation, arthritic and atopic diseases

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,

CC cats, cattle, sheep or pets. The products can also be used for detection,

CC diagnosis and drug screening.

XX Sequence 509 BP: 124 A; 106 C; 109 G; 170 T; 0 other:

SO Query Match 63.2%; Score 227; DB 20; Length 509;

Best Local Similarity 100.0%; Pred. No. 9e-106; Mismatches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGCTAAACCTGGAATTCACCT 60
 Db 509 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGCTAAACCTGGAATTCACCT 450
 QY 61 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGTCAGACGATCTACACGTT 120
 Db 449 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGTCAGACGATCTACACGTT 390
 QY 121 TCTATCAGCTTGCCCTTTTTCAGTCCCTGAGACACACATGTGAGCGCTTTTGTGCCCTG 180
 Db 389 TCTATCAGCTTGCCCTTTTTCAGTCCCTGAGACACACATGTGAGCGCTTTTGTGCCCTG 330
 QY 181 AACTGGAGACACTGGAGATGCTGCTCCCTACCTTTCATATAGA 227
 Db 329. AACTGGAGACACTGGAGATGCTGCTCCCTACCTTTCATATAGA 283

RESULT 5

AA227931 standard; DNA: 996 BP.

AC AA227931;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 protein coding sequence.

KW B7; CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; feline;

KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062397.

PA (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.

DR P-PSDB; AAY41079.

XX New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 123-124; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)

CC encoding nucleic acid molecules from dogs and cats. The proteins can be

CC expressed by standard recombinant methodology. The nucleic acid molecules

CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor

CC development, graft rejection, inflammation, arthritic and atopic diseases

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,

CC cats, cattle, sheep or pets. The products can also be used for detection,

CC diagnosis and drug screening.

XX Sequence 996 BP: 319 A; 219 C; 203 G; 255 T; 0 other:

Query Match 63.2%; Score 227; DB 20; Length 996;

Best Local Similarity 100.0%; Pred. No. 9.1e-106; Mismatches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGCTAAACCTGGAATTCACCT 60
 Db 484 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGCTAAACCTGGAATTCACCT 543
 QY 61 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGTCAGACGATCTACACGTT 120
 Db 544 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGTCAGACGATCTACACGTT 603
 QY 121 TCTATCAGCTTGCCCTTTTTCAGTCCCTGAGACACACATGTGAGCGCTTTTGTGCCCTG 180
 Db 604 TCTATCAGCTTGCCCTTTTTCAGTCCCTGAGACACACATGTGAGCGCTTTTGTGCCCTG 663
 QY 181 AACTGGAGACACTGGAGATGCTGCTCCCTACCTTTCATATAGA 227
 Db 664 AACTGGAGACACTGGAGATGCTGCTCCCTACCTTTCATATAGA 710

RESULT 6

AA227932/C standard; DNA: 996 BP.

AC AA227932;

DT 20-DEC-1999 (first entry)

DE Complementary strand of feline B7-2 coding sequence.

KW B7; CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; feline;

KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062397.

PA (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.

DR P-PSDB; AAY41079.

XX New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 124-125; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)

CC encoding nucleic acid molecules from dogs and cats. The proteins can be

CC expressed by standard recombinant methodology. The nucleic acid molecules

CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor

CC development, graft rejection, inflammation, arthritic and atopic diseases

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,

CC cats, cattle, sheep or pets. The products can also be used for detection,

CC diagnosis and drug screening.

XX Sequence 996 BP: 255 A; 203 C; 219 G; 319 T; 0 other:

Query Match 63.2%; Score 227; DB 20; Length 996;

Best Local Similarity 100.0%; Pred. No. 9.1e-106; Mismatches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTAGAGATGATTTTCAGCTAAACCTGAGATCACT 60
 |||||||
 DB 513 ATACAAGTTACCCAGAACCTAGAGATGATTTTCAGCTAAACCTGAGATCACT 454
 |||||||
 QY 61 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 120
 |||||||
 DB 453 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 394
 |||||||
 QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACACAAATGTGACCGCTTTTGTGCCCTG 180
 |||||||
 DB 393 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACACAAATGTGACCGCTTTTGTGCCCTG 334
 |||||||
 QY 181 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGA 227
 |||||||
 DB 333 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGA 287
 |||||||

RESULT 7
 AA234838
 ID AA234838 standard; cDNA: 1080 BP.
 AC AA234838;
 XX
 DT 28-FEB-2000 (first entry)
 XX
 DE Feline CD86 (B7-2) cDNA.
 XX
 KW CD86; B7-2; feline; cat; recombinant virus; vaccine;
 KW Immunomodulator; tumour; cancer; therapy; ss.
 XX
 OS Fells domesticus.
 XX
 FH Key Location/Qualifiers
 FT CDS 63..1052
 FT /*tag= a
 XX
 PN MO9957295-A1.
 XX
 PD 11-NOV-1999.
 XX
 PF 30-APR-1999; 99WO-US09504.
 XX
 PR 01-MAY-1998; 98US-0071711.
 XX
 PA (SCHE) SCHERING-PLOUGH LTD.
 PA (SCHE) SCHERING-PLOUGH VETERINARY CORP.
 XX
 PI Winslow BJ, Cochran MD;
 XX
 DR MPI: 2000-062155/05.
 DR P-PSDB; AAY32285.
 XX
 PT Novel recombinant virus useful as immunomodulators, particularly in
 PT vaccines
 XX
 PS Disclosure; Fig 3A; 230pp; English.
 XX
 CC This is the nucleotide sequence of cDNA coding for feline CD86
 CC (B7-2). The cDNA was isolated from feline peripheral blood
 CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
 CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
 CC regulates T cell proliferation and cytokine release. The invention
 CC relates to a recombinant virus that contains at least one foreign
 CC nucleic acid, inserted into a nonessential genomic region, that
 CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
 CC immunogenic fragments, and is expressed when the recombinant virus
 CC is introduced into a suitable host. The invention also provides:
 CC a recombinant virus further comprising a foreign nucleic acid
 CC encoding an immunogen derived from a feline pathogen; recombinant
 CC viruses capable of enhancing an immune response to protect against
 CC disease; recombinant viruses expressing antisense sequences,
 CC capable of suppressing an immune response in a feline, e.g. for

CC treatment of autoimmune disease or transplant rejection; and
 CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used
 CC to reduce or eliminate a tumour in cats.
 XX
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 Query Match 63.2%; Score 227; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 9.1e-106;
 Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTAGAGATGATTTTCAGCTAAACCTGAGATCACT 60
 |||||||
 DB 546 ATACAAGTTACCCAGAACCTAGAGATGATTTTCAGCTAAACCTGAGATCACT 605
 |||||||
 QY 61 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 120
 |||||||
 DB 606 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 665
 |||||||
 QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACACAAATGTGACCGCTTTTGTGCCCTG 180
 |||||||
 DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACACAAATGTGACCGCTTTTGTGCCCTG 725
 |||||||

QY 181 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGA 227
 |||||||
 DB 726 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGA 772
 |||||||

RESULT 8
 AA234785
 ID AA234785 standard; cDNA: 1080 BP.
 AC AA234785;
 XX
 DT 15-FEB-2000 (first entry)
 XX
 DE Cat CD86 (B7-2) cDNA.
 XX
 KW CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
 KW FIV; feline leukaemia virus; feline infectious peritonitis virus;
 KW feline parvovirus; feline calicivirus; feline reovirus-3;
 KW feline rotavirus; feline coronavirus; feline syncytial virus;
 KW feline sarcoma virus; feline herpesvirus; feline borna disease;
 KW rabies virus; chlamydia; toxoplasmosis gondii; dirofilaria immitis;
 KW parasite; autoimmune disease; transplant rejection; therapy; ss.
 XX
 OS Fells domesticus.
 XX
 FH Key Location/Qualifiers
 FT CDS 63..1055
 FT /*tag= a
 XX
 PN MO9957271-A2.
 XX
 PD 11-NOV-1999.
 XX
 PF 30-APR-1999; 99WO-US09502.
 XX
 PR 01-MAY-1998; 98US-0071699.
 XX
 PA (TEXA) TEXAS A & M SYSTEM.
 XX
 PI Collison EW, Hash SM, Choi I;
 XX
 DR MPI: 2000-052972/04.
 DR P-PSDB; AAY32278.
 XX
 PT Novel feline proteins used to produce feline vaccines which prevent
 PT infectious disease or to promote growth in homologous or heterologous
 PT species
 XX
 PS Claim 6; Fig 3A; 186pp; English.
 XX
 CC This is the nucleotide sequence of cDNA encoding feline CD86

(B7-2) ligand (see AAY32278) . It was obtained following RT-PCR of peripheral blood mononuclear cell mRNA and RACE-PCR. A vector comprising nucleic acid encoding feline CD86 ligand or feline soluble CD80 ligand is designated PST-2#19-2/011298 (ATCC 209821) . The coexpression of CD86 with the costimulatory molecules CD28 (see AAY32279) and a tumour antigen or an antigen from a pathogenic organism has the ability to activate or enhance activation of T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has the ability to regulate activation of T-lymphocytes. The invention provides isolated nucleic acids encoding feline CD86 ligand, feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4 (CD132) receptor, as well as vectors comprising the nucleic acids, and polypeptides encoded by the nucleic acids. It also provides vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and further comprising immunogens derived from pathogens, especially feline immunodeficiency virus (FIV), feline leukaemia virus, feline infectious peritonitis virus, feline panleukopenia virus, feline calicivirus, feline reovirus-3, feline rotavirus, feline coronavirus, feline syncytial virus, feline sarcoma virus, feline herpesvirus, feline Borna disease virus, rabies virus, chlamydia, Toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial pathogen, or parasite (all claimed). Vaccines capable of enhancing an immune response, and vaccines capable of suppressing an immune response (suitable for treating an autoimmune disease or tissue or organ transplant rejection) are claimed. The nucleic acids may be used for gene therapy or antisense therapy protocols.

Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:

Query Match 63.2%; Score 227; DB 21; Length 1080;
Best Local Similarity 100.0%; Pred. No. 9.1e-106;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTAACCT 60
DB 546 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTAACCT 605
QY 61 ACTAAGTATGATATGTCATGAGAAATCTCAAAATATGTGACAGAACTGTACAACTT 120
DB 606 ACTAAGTATGATATGTCATGAGAAATCTCAAAATATGTGACAGAACTGTACAACTT 665
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCCCTG 180
DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCCCTG 725
QY 181 AAACCTGGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 227
DB 726 AAACCTGGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 772

RESULT 9
AAL46840
ID AAL46840 standard; cDNA; 1080 BP.

AC AAL46840;

DT 08-AUG-2002 (first entry)

DE Feline CD86 coding sequence.

KW Cat; CD28; CD80; CTLA-4; CD86; immunogen; vaccine; viral infection;
KW feline immunodeficiency disease; feline infectious peritonitis;
KW feline leukaemia virus; cancer; degenerative disease; autoimmune disease;
KW vtrucide; immunomodulator; cytostatic; immunodeficiency; gene; ss.

OS Felis catus.

PN US2002051792-A1.

XX 02-MAY-2002.

XX 30-APR-1999; 99US-0303040.

XX 01-MAY-1998; 98US-083870P.
PR (WINSLOW B J.
PA (COCH/ COCHRAN M D.
XX Winslow BJ, Cochran MD;
XX MPI: 2002-415200/44.
DR P-PSDB: AAO17734.

XX New recombinant virus, useful for immunizing felines to prevent or
PR treat feline immunodeficiency virus, comprises foreign nucleic acid
PT encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
PT CD86 or CTLA-4 .
PS Disclosure: Fig 3; 77pp: English.

XX The present invention relates to a recombinant virus comprising at least
CC one foreign nucleic acid encoding a protein selected from feline
CC cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
CC which is capable of expression when the virus is introduced into an
CC appropriate host. The virus can be administered to the feline in order to
CC elicit or enhance an immune response to prevent or treat feline
CC immunodeficiency disease, feline leukaemia, feline infectious peritonitis,
CC cancers, degenerative and autoimmune diseases and immunodeficiency. The
CC present sequence is the coding sequence of a cytotoxic T lymphocyte
CC accessory molecule described in the exemplification of the invention.

Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:

Query Match 63.2%; Score 227; DB 24; Length 1080;
Best Local Similarity 100.0%; Pred. No. 9.1e-106;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTAACCT 60
DB 546 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTAACCT 605
QY 61 ACTAAGTATGATATGTCATGAGAAATCTCAAAATATGTGACAGAACTGTACAACTT 120
DB 606 ACTAAGTATGATATGTCATGAGAAATCTCAAAATATGTGACAGAACTGTACAACTT 665
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCCCTG 180
DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCCCTG 725
QY 181 AAACCTGGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 227
DB 726 AAACCTGGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 772

RESULT 10
ABK48230
ID ABK48230 standard; cDNA; 1080 BP.

AC ABK48230;

DT 02-JUL-2002 (first entry)

DE cDNA encoding feline CD86 protein.

KW Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
KW feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
KW organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
KW feline leukaemia; FeLV; calicivirus; rotavirus; reovirus type 3;
KW coronavirus; herpes; borna disease.

XX Felis sp.

OS Key Location/Qualifiers
XX CDS 63..1052

FT	/*tag= a	
FT	/product= "CD86 protein"	
PN	US2002028208-A1.	
XX		
XX	07-MAR-2002.	
XX		
XX	30-APR-1999;	99US-0303510.
XX		
PR	01-MAY-1998;	98US-083869P.
PA	(COLL/) COLLISSON E W.	
PA	(HASH/) HASH S M.	
PA	(CHOL/) CHOI I.	
PI	Collisson EW, Hash SM, Choi I;	
XX		
DR	WPI, 2002-315045/35.	
DR	P-PSDB: AAU78121.	
PT	Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28	
PT	receptor or CTLA-4 receptor as vaccine for inducing immune response in	
PT	feline suffering from autoimmune disease or tissue or organ transplant	
XX		
XX		
PS	Claim 6; Fig 3A; 73pp; English.	
CC	This invention relates to the DNA and protein sequences encoding a	
CC	soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound	
CC	CD28 receptor and soluble or membrane bound CTLA-4 receptor. The	
CC	invention also relates to a vaccine comprising an effective amount of	
CC	these receptor proteins. A vaccine is useful for inducing immunity or	
CC	enhancing an immune response in a cat. The protein sequences of the	
CC	invention are useful for suppressing an immune response in a feline	
CC	suffering from an autoimmune disease or the recipient of a tissue or	
CC	organ transplant. A vector containing the DNA sequences of the	
CC	invention is useful for redirecting an immune response in a feline to an	
CC	immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,	
CC	flaea, feline immunodeficiency virus, feline leukaemia (FeLV), feline	
CC	infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,	
CC	reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,	
CC	sarcoma virus, borra disease virus or a parasite. The protein sequences	
CC	may be further utilised to promote growth in homologous or heterologous	
CC	feline species. Enhancement of immunity through the interaction of	
CC	soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an	
CC	immune response through the interaction of feline CD80 or CD86 with	
CC	CTLA-4 takes advantage of the natural process of regulation rather than	
CC	adding foreign substances that could have multiple, even detrimental	
CC	effects on overall or long term health. The present sequence represents	
CC	a cDNA encoding the feline CD86 protein of the invention.	
XX		
XX		
XX	Sequence 1080 BP: 333 A; 233 C; 235 G; 279 T; 0 other:	
XX		
Query Match	63.2%; Score 227; DB 24; Length 1080;	
Best Local Similarity	100.0%; Prid. No. 9.1e-106;	
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		
QY	1 ATACAAAGGTTCCCGAAGACCTTAAGAGATGTTTTCAGCTAAACACTGACAAATTCACCT 60	
DB	546 ATACAAAGGTTCCCGAAGACCTTAAGAGATGTTTTCAGCTAAACACTGACAAATTCACCT 605	
QY	61 ACTAAGTATGATACGTATGATGAAGAAATCTCAAAATTAATGTGACAGAACTGTACAACGTT 120	
DB	606 ACTAAGTATGATACGTATGATGAAGAAATCTCAAAATTAATGTGACAGAACTGTACAACGTT 665	
QY	121 TCTATCAGCTTGCCCTTTTTCAGTCCCTGTAAGACACAAATGTGAGCGCTCTTTTGTGCCCTG 180	
DB	666 TCTATCAGCTTGCCCTTTTTCAGTCCCTGTAAGACACAAATGTGAGCGCTCTTTTGTGCCCTG 725	
QY	181 AAACGTGAGACACGTGAGATGCTGCTCCCTACACCTTCAATATATGA 227	
DB	726 AAACGTGAGACACGTGAGATGCTGCTCCCTACACCTTCAATATATGA 772	

	RESULT	11
ID	AAZ27929	
	AAZ27929 standard; DNA: 2830 BP.	
XX		
AC	AAZ27929;	
XX		
D7	20-DEC-1999 (first entry)	
XX		
DE	Feline B7-2 protein encoding DNA.	
XX		
BW	B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease; allergic reaction; infectious disease; tumor development; feline; graft rejection; inflammation; arthritis; atopic dermatitis; ss-	
KX		
OS	Felis catus.	
PN	WO9947558-A2.	
PD		
PN	MO9947558-A2.	
PE	19-MAR-1999; 99WO-US06187.	
PR	19-MAR-1998; 98US-0078765.	
PP	17-APR-1998; 98US-0062597.	
PA	(HESK-) HESKA CORP.	
PI	Slim G, Yang S, Sellins KS;	
DR	WP1: 1999-571822/48.	
DR	P-PADB: AAY41079.	
PT	New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g., autoimmune and atopic diseases -	
PS	Claim 1; Page 116-119; 148bp; English.	
CC	The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoding nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g., autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthrilitis and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening. Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other; † Query Match 63.2%; Score 227; DB 20; Length 2830; Best Local Similarity 100.0%; Pred. No. 9,2e+106; Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0	
OY	1 ATACAAGGTTACCAGAAGCTTAAGATGTATTTCACGCTAACACTGAANTCACT 60 	
DB	662 ATACAAGGTTACCGAGAAGCTTAAGATGTATTTCACGCTAACACTGAANTCACT 721 	
OY	61 ACTAAGTAGATACGTCTCATGAAGAAATCTCAAATAATAGTGACACAACTGTACAACT 120 	
DB	722 ACTAAGTAGATACGTCTCATGAAGAAATCTCAAATAATAGTGACACAACTGTACAACT 781 	
OY	121 TCATCAGGTGCCTTTTTCACTGCCGTGAAGACACAAATGTGGAGCGCTTTTGTGCCCTG 180 	
DB	782 TCATCAGGTGCCTTTTTCACTGCCGTGCCGTGAAGACACAAATGTGGAGCGCTTTTGTGCCCTG 841 	
OY	181 AACCTGAGACACTGAGATGCTGCTCTCCCCTACCTTTCAATATAGA 227 	
DB	842 AAACCTGAGACACTGAGATGCTGCTCTCCCCTACCTTTCAATATAGA 888 	

ID	AA227930 standard; DNA; 2830 BP.	
XX	AA227930:	
XX	20-DEC-1999 (first entry)	
XX		
XX	Feline B7-2 gene complementary DNA sequence.	
XX		
XX	B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;	
XX	allergic reaction; infectious disease; tumor development; feline;	
XX	graft rejection; inflammation; arthritis; atopic dermatitis; ss.	
XX	Felis catus.	
XX	MO9947558-A2.	
XX	23-SEP-1999.	
XX		
XX	19-MAR-1999; 99MO-US06187.	
XX	19-MAR-1998; 98US-0078765.	
XX	17-APR-1998; 98US-0062597.	
XX	(HESK-) HESKA CORP.	
XX	Slm G, Yang S, Sellins KS;	
XX	WPI: 1999-571822/48.	
XX		
XX	New isolated B7 and CTLA4 nucleic acids, used to develop products for	
XX	treating, e.g. autoimmune and atopic diseases	
XX	Claim 1; Page 121-123; 148pp; English.	
XX		
XX	The invention provides B7 and CTLA4 (T cell costimulatory proteins)	
XX	encoding nucleic acid molecules from dogs and cats. The proteins can be	
XX	expressed by standard recombinant methodology. The nucleic acid molecules	
XX	and the encoded proteins can be used for preventing or treating diseases,	
XX	e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor	
XX	development, graft rejection, inflammation, arthritis and atopic diseases	
XX	such as atopic dermatitis. They can be used in mammals such humans, dogs,	
XX	cats, cattle, sheep or pets. The products can also be used for detection,	
XX	diagnosis and drug screening.	
XX		
XX	Sequence 2830 BP; 797 A; 586 C; 570 G; 877 T; 0 other;	
XX		
XX	Query Match 63.2%; Score 227; DB 20; Length 2830;	
XX	Best Local Similarity 100.0%; Pred. No. 9.2e-106;	
XX	Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
XX		
XX	1 ATAAAGCGTATACCCAGACCTAAAGGAGATGATTTTCAGCTAAACACTGAAATTCACCT 60	
XX	DB 2169 ATCAAGAGTTATACCCAGACCTAAAGGAGATGATTTTCAGCTAAACACTGAAATTCACCT 60	
XX	61 ACTAAGTATGATCTGTCATGAAAGAAATCTCAAAATATGTGACAGAACTGTACAAGTT 120	
XX	DB 2109 ACTAAGTATGATCTGTCATGAAAGAAATCTCAAAATATGTGACAGAACTGTACAAGTT 2050	
XX	121 TCTATACGCTGCTTTTCAGTCCCTGAGACACAAATGTGACGCTCTTTGTGGCCCTG 180	
XX	DB 2049 TCTATACGCTGCTTTTCAGTCCCTGAGACACAAATGTGACGCTCTTTGTGGCCCTG 1990	
XX	181 AAACGTGAGACACTGGAGATGCGTCTCCCTACCTTCATCATATAGA 227	
XX	DB 1989 AAACGTGAGACACTGGAGATGCGTCTCTCCCTACCTTCATCATATAGA 1943	
XX		
XX	RESULT 13	
XX	AA227923	
XX	AA227923 standard; DNA; 840 BP.	
XX		
XX	AA227923:	

DT	20-DEC-1999	(first entry)
XX		
DE	Canine B7-2S protein coding sequence.	
XX		
KM	B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;	
KM	allergic reaction; infectious disease; tumor development; canine;	
KM	graft rejection; inflammation; arthritis; atopic dermatitis; ss.	
XX		
OS	Canis familiaris.	
XX		
PN	WO9947558-A2.	
XX		
PD	23-SEP-1999.	
XX		
PE	19-MAR-1999; 99WO-US06187.	
XX		
PR	19-MAR-1998; 98US-0078765.	
XX	17-APR-1998; 98US-0062597.	
PA	(HESK-) HESKA CORP.	
XX		
PI	Slim G, Yang S, Sellins KS,	
XX		
DR	WPI; 1999-571822/48.	
DR	P-PsDB; AAY41078.	
PT	New isolated B7 and CTLA4 nucleic acids, used to develop products for	
XX	treating, e.g., autoimmune and atopic diseases	-
PS	Claim 1; Page 114; 148pp; English.	
XX		
CC	The invention provides B7 and CTLA4 (T cell costimulatory proteins)	
CC	encoding nucleic acid molecules from dogs and cats. The proteins can be	
CC	expressed by standard recombinant methodology. The nucleic acid molecules	
CC	and the encoded proteins can be used for preventing or treating diseases,	
CC	e.g., autoimmune diseases, allergic reactions, infectious diseases, tumor	
CC	development, graft rejection, inflammation, arthritic and atopic diseases	
CC	such as atopic dermatitis. They can be used in mammals such humans, dogs,	
CC	cats, cattle, sheep or pets. The products can also be used for detection,	
CC	diagnosis and drug screening.	
XX		
SQ	Sequence 840 BP; 278 A; 181 C; 167 G; 214 T; 0 other;	
	Query Match	11.7%; Score 42; DB 20; Length 840;
	Best Local Similarity	100.0%; Pred. No. 2.1e-11;
	Matches	42; Conservative 0; Mismatches 0; Indels 0; Gaps 0.
OY	60 TACTAGTAGTACTGTCATGCATGAAGAATACTCAAAATATATGT 101 	
Dd	540 TACTAAGTAGTACTGTCATGCATGAAGAATACTCAAAATATATGT 581	
	RESULT 14	
	AAZ27924/C	
XX	ID AAZ27924 standard; DNA; 840 BP.	
XX		
AC	AAZ27924;	
XX		
DT	20-DEC-1999 (first entry)	
XX		
DE	Complementary strand of canine B7-2S coding sequence.	
XX		
KM	B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;	
KM	allergic reaction; infectious disease; tumor development; canine;	
XX	graft rejection; inflammation; arthritis; atopic dermatitis; ss.	
XX		
OS	Canis familiaris.	
XX		
PN	WO9947558-A2.	
XX		
PD	23-SEP-1999.	
XX		
PF	19-MAR-1999; 99WO-US06187.	


```

XX 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
PA
XX Slim G, Yang S; Sellins KS;
XX
XX WPI; 1999-571822/48.
DR
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 115; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;
XX
XX Query Match 11.7%; Score 42; DB 20; Length 840;
XX Best Local Similarity 100.0%; Pred. No. 2.1e-11;
XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 60 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 101
XX |||||||||||||||||||||||||||||||||||||||
XX DB 301 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 260
XX
XX RESULT 15
XX AA227915
XX ID AA227915 standard; DNA; 987 BP.
XX
XX AC AA227915;
XX
XX 20-DEC-1999 (first entry)
XX
XX Canine B7-2 protein coding sequence.
XX
XX DE
XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; canine;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX OS
XX Canis familiaris.
XX
XX PN WO9447558-A2.
XX
XX 23-SEP-1999.
XX
XX PE 19-MAR-1999; 99WO-US06187.
XX
XX PR 19-MAR-1998; 98US-0078765.
XX PR 17-APR-1998; 98US-0062597.
XX
XX PA (HESK-) HESKA CORP.
XX
XX PI Slim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX P-PSDB; AAV41076.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 102-103; 148pp; English.
XX

```

```

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
CC
CC Sequence 987 BP; 315 A; 215 C; 204 G; 253 T; 0 other;
CC
CC Query Match 11.7%; Score 42; DB 20; Length 987;
CC Best Local Similarity 100.0%; Pred. No. 2.2e-11;
CC Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
CC
CC QY 60 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 101
CC |||||||||||||||||||||||||||||||||||||||
CC DB 540 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 581
CC
CC RESULT 16
CC AA227916/C
CC ID AA227916 standard; DNA; 987 BP.
CC
CC AC AA227916;
CC
CC 20-DEC-1999 (first entry)
CC
CC DE Complementary strand of canine B7-2 coding sequence.
CC
CC XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; canine;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX OS
XX Canis familiaris.
XX
XX PN WO9447558-A2.
XX
XX 23-SEP-1999.
XX
XX PE 19-MAR-1999; 99WO-US06187.
XX
XX PR 19-MAR-1998; 98US-0078765.
XX PR 17-APR-1998; 98US-0062597.
XX
XX PA (HESK-) HESKA CORP.
XX
XX PI Slim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 103-104; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;
XX
XX Query Match 11.7%; Score 42; DB 20; Length 987;
XX Best Local Similarity 100.0%; Pred. No. 2.2e-11;
XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX

```

OY 60 TACTAGTATGATGTCATGAGAAATCTCAAAATATGT 101
 ||||||||||||||||||||||||||||||||||||||||
 Db 448 TACTAGTATGATGTCATGAGAAATCTCAAAATATGT 407

RESULT 17 AA227921

ID AA227921 standard; DNA: 1795 BP.

AC AA227921;

DT 20-DEC-1999 (first entry)

DE Canine B7-2S protein encoding DNA.

KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Canis familiaris.

XX WO947558-A2.

XX 23-SEP-1999.

XX 19-MAR-1999; 99WO-US06187.

XX 19-MAR-1998; 98US-0078765.

XX 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PSDB; AAY41078.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 109-111; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;

Query Match 11.7%; Score 42; DB 20; Length 1795;

Best Local Similarity 100.0%; Pred. No. 2.2e-11;

Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 60 TACTAGTATGATGTCATGAGAAATCTCAAAATATGT 101
 ||||||||||||||||||||||||||||||||||||||||

Db 546 TACTAGTATGATGTCATGAGAAATCTCAAAATATGT 587

RESULT 18 AA227922/C

ID AA227922 standard; DNA: 1795 BP.

AC AA227922;

DT 20-DEC-1999 (first entry)

DE Canine B7-2S gene complementary DNA sequence.

KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Canis familiaris.

XX WO947558-A2.

XX 23-SEP-1999.

XX 19-MAR-1999; 99WO-US06187.

XX 19-MAR-1998; 98US-0078765.

XX 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 112-114; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other;

Query Match 11.7%; Score 42; DB 20; Length 1795;

Best Local Similarity 100.0%; Pred. No. 2.2e-11;

Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 60 TACTAGTATGATGTCATGAGAAATCTCAAAATATGT 101
 ||||||||||||||||||||||||||||||||||||||||

Db 1250 TACTAGTATGATGTCATGAGAAATCTCAAAATATGT 1209

RESULT 19 AA227913

ID AA227913 standard; DNA: 1897 BP.

AC AA227913;

DT 20-DEC-1999 (first entry)

DE Canine B7-2 protein encoding DNA.

KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Canis familiaris.

XX WO947558-A2.

XX 23-SEP-1999.

XX 19-MAR-1999; 99WO-US06187.

XX 19-MAR-1998; 98US-0078765.

XX 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

GenCore version 5.1.4-p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 47.2701 Seconds
(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359

Sequence: 1 atacaaggtaccagaacc.....ggcgacaaagtactacaca 359

Scoring table: OLIGO_NUC

Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published_Applications_NA:*
1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
2: /cgn2_6/ptodata/2/pubpna/PCR_NEW_PUB.seq:*
3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
6: /cgn2_6/ptodata/2/pubpna/PCR_NEW_PUB.seq:*
7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	227	63.2	1080	10 US-09-303-510-5	Sequence 5, Appl1
2	227	63.2	1080	10 US-09-303-040-5	Sequence 5, Appl1
3	18	5.0	210	9 US-09-962-969-31	Sequence 31, Appl1
4	18	5.0	210	10 US-09-837-867A-31	Sequence 31, Appl1
5	18	5.0	467	9 US-10-046-935-2030	Sequence 2030, Ap
6	18	5.0	467	9 US-09-878-178-2030	Sequence 2030, Ap
7	18	5.0	467	9 US-10-146-502-2030	Sequence 2030, Ap
8	18	5.0	751	9 US-10-105-200A-34	Sequence 34, Appl1
9	18	5.0	831	10 US-09-845-899A-4	Sequence 4, Appl1
10	18	5.0	972	9 US-09-826-025-11	Sequence 11, Appl1
11	18	5.0	1002	9 US-10-105-200A-33	Sequence 33, Appl1
12	18	5.0	1039	10 US-09-880-192-25	Sequence 25, Appl1
13	18	5.0	1056	10 US-09-756-983-17	Sequence 17, Appl1
14	18	5.0	1112	9 US-09-441-411-25	Sequence 25, Appl1
15	18	5.0	1120	8 US-08-592-711-3	Sequence 3, Appl1
16	18	5.0	1120	9 US-09-962-969-22	Sequence 22, Appl1
17	18	5.0	1120	10 US-09-837-867A-22	Sequence 22, Appl1
18	18	5.0	1161	9 US-09-962-969-24	Sequence 24, Appl1
19	18	5.0	1161	10 US-09-837-867A-24	Sequence 24, Appl1

20	18	5.0	1424	9 US-09-954-531-366	Sequence 366, App
21	18	5.0	1424	9 US-09-441-411-21	Sequence 21, Appl1
22	18	5.0	1424	10 US-09-962-936-556	Sequence 556, App
23	18	5.0	1491	10 US-09-892-325-3	Sequence 3, Appl1
24	18	5.0	1494	9 US-09-938-842A-569	Sequence 569, App
25	18	5.0	1502	10 US-09-883-797-11	Sequence 11, Appl1
26	18	5.0	1807	10 US-09-892-325-2	Sequence 2, Appl1
27	18	5.0	3722	10 US-09-892-325-1	Sequence 1, Appl1
28	17	4.7	184	10 US-09-864-761-17534	Sequence 17534, A
29	17	4.7	354	10 US-09-864-761-17534	Sequence 17534, A
30	17	4.7	387	9 US-10-108-605-110	Sequence 110, App
31	17	4.7	449	9 US-09-918-995-14537	Sequence 14537, A
32	17	4.7	481	10 US-09-974-300-6414	Sequence 6414, Ap
33	17	4.7	488	9 US-09-918-995-34571	Sequence 34571, A
34	17	4.7	583	10 US-09-864-761-13635	Sequence 13635, A
35	17	4.7	599	9 US-09-796-692-8993	Sequence 8993, Ap
36	17	4.7	8746	10 US-09-764-860-1022	Sequence 1022, Ap
37	17	4.7	15772	10 US-09-764-903-66	Sequence 66, Appl1
38	17	4.7	24023	9 US-10-094-679-1	Sequence 1, Appl1
39	16	4.5	235	10 US-09-867-701-1050	Sequence 1050, Ap
40	16	4.5	251	10 US-09-878-574-5600	Sequence 5600, Ap
41	16	4.5	265	10 US-09-983-965-3743	Sequence 3743, Ap
42	16	4.5	344	9 US-09-803-719-225	Sequence 225, App
43	16	4.5	370	10 US-09-960-352-7603	Sequence 7603, Ap
44	16	4.5	415	10 US-10-092-154-1353	Sequence 1353, Ap
45	16	4.5	432	9 US-09-764-847-1353	Sequence 1353, Ap
46	16	4.5	450	9 US-10-092-154-179	Sequence 179, App
47	16	4.5	450	9 US-09-918-995-13563	Sequence 13563, A
48	16	4.5	450	10 US-09-918-995-13563	Sequence 13563, A
49	16	4.5	450	10 US-09-764-847-13563	Sequence 13563, A
50	16	4.5	451	9 US-09-918-995-14666	Sequence 14666, A
51	16	4.5	467	10 US-09-864-761-919	Sequence 919, App
52	16	4.5	467	9 US-09-918-995-8207	Sequence 8207, Ap
53	16	4.5	469	10 US-09-864-761-10917	Sequence 10917, A
54	16	4.5	475	10 US-09-879-536-263	Sequence 263, App
55	16	4.5	497	9 US-09-783-590-3151	Sequence 3151, Ap
56	16	4.5	507	10 US-09-796-692-6961	Sequence 6961, Ap
57	16	4.5	528	10 US-10-015-219-317	Sequence 317, App
58	16	4.5	528	10 US-09-777-564-317	Sequence 317, App
59	16	4.5	558	10 US-09-864-761-12572	Sequence 12572, A
60	16	4.5	597	10 US-09-864-761-7148	Sequence 7148, Ap
61	16	4.5	848	9 US-10-079-854-60	Sequence 60, Appl1
62	16	4.5	848	10 US-09-764-878-60	Sequence 60, Appl1
63	16	4.5	957	10 US-09-833-381-1550	Sequence 1550, Ap
64	16	4.5	1024	9 US-10-202-193-90	Sequence 90, Appl1
65	16	4.5	1037	12 US-10-033-109-1	Sequence 1, Appl1
66	16	4.5	1314	10 US-09-758-498-2	Sequence 2, Appl1
67	16	4.5	1325	10 US-09-925-300-647	Sequence 647, App
68	16	4.5	1415	9 US-09-934-900-11	Sequence 11, Appl1
69	16	4.5	1508	9 US-10-146-835-3	Sequence 3, Appl1
70	16	4.5	1541	9 US-10-146-835-3	Sequence 3, Appl1
71	16	4.5	1895	9 US-10-093-246-7	Sequence 7, Appl1
72	16	4.5	1895	12 US-10-093-045-7	Sequence 7, Appl1
73	16	4.5	2000	9 US-09-938-842A-5187	Sequence 5187, Ap
74	16	4.5	2594	9 US-09-938-842A-5206	Sequence 5206, Ap
75	16	4.5	2719	10 US-09-925-300-276	Sequence 276, App
76	16	4.5	3058	10 US-09-781-100-1	Sequence 1, Appl1
77	16	4.5	3058	9 US-09-981-876-94	Sequence 94, Appl1
78	16	4.5	3058	9 US-09-148-545-94	Sequence 94, Appl1
79	16	4.5	3346	12 US-10-078-929-191	Sequence 191, App
80	16	4.5	3455	10 US-09-826-752-3	Sequence 3, Appl1
81	16	4.5	3860	10 US-09-866-866A-1	Sequence 1, Appl1
82	16	4.5	3860	10 US-09-866-866A-3	Sequence 3, Appl1
83	16	4.5	4254	10 US-09-917-800A-1424	Sequence 1424, Ap
84	16	4.5	4643	9 US-10-072-621-2	Sequence 2, Appl1
85	16	4.5	8294	12 US-10-084-037-2	Sequence 2, Appl1
86	16	4.5	8473	10 US-09-851-682A-2	Sequence 2, Appl1
87	16	4.5	8630	10 US-09-306-417-1	Sequence 1, Appl1
88	16	4.5	8630	10 US-09-306-417-2	Sequence 2, Appl1
89	16	4.5	11617	9 US-09-860-670-265	Sequence 265, App
90	16	4.5	13205	9 US-10-274-971-3	Sequence 3, Appl1
91	16	4.5	24699	10 US-09-764-877-2419	Sequence 2419, Ap
92	16	4.5	32203	9 US-10-091-504-1849	Sequence 1849, Ap

c 93	16	4.5	32203	10	US-09-764-869-1849	Sequence 1849, Ap
c 94	16	4.5	40392	10	US-09-954-456-44	Sequence 44, Appl
c 95	16	4.5	40392	10	US-09-954-456-687	Sequence 687, Appl
c 96	16	4.5	90050	10	US-09-893-238-5	Sequence 5, Appl
c 97	16	4.5	133893	9	US-10-161-510-1	Sequence 1, Appl
c 98	16	4.5	143306	10	US-09-729-920-3	Sequence 3, Appl
c 99	16	4.5	180216	10	US-09-835-232-6	Sequence 6, Appl
c 100	16	4.5	1691139	9	US-10-067-514-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1
US-09-303-510-5
Sequence 5, Application US/09303510A
Patent No. US20020028208A1
GENERAL INFORMATION:

APPLICANT: Collinson, Ellen W.
APPLICANT: Hash, Stephen M.
APPLICANT: Choi, InSoo
TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
FILE REFERENCE: 54954
CURRENT APPLICATION NUMBER: US/09/303,510A
CURRENT FILING DATE: 1999-04-30
EARLIER APPLICATION NUMBER: 60/083,869
EARLIER FILING DATE: 1998-05-01
NUMBER OF SEQ ID NOS: 83
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 5
LENGTH: 1080
TYPE: DNA
ORGANISM: Feline
US-09-303-510-5

Query Match 63.2%; Score 227; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3,7e-118;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGCAATTTCAACT	60
DB	546	ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGCAATTTCAACT	605
QY	61	ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGCAACTGTACACGTT	120
DB	606	ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGCAACTGTACACGTT	665
QY	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCACAACATGTGACGCTTTTGGCCCTG	180
DB	666	TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCACAACATGTGACGCTTTTGGCCCTG	725
QY	181	AAACTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA	227
DB	726	AAACTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA	772

RESULT 2
US-09-303-040-5
Sequence 5, Application US/09303040
Patent No. US20020051792A1
GENERAL INFORMATION:
APPLICANT: Winslow, Barbara J.
APPLICANT: Cochran, Mark D.
TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, Feline CTLA-4 or
FILE REFERENCE: 54957-B
CURRENT APPLICATION NUMBER: US/09/303,040
CURRENT FILING DATE: 1999-04-30
EARLIER APPLICATION NUMBER: 60/083,870
EARLIER FILING DATE: 1998-05-01
NUMBER OF SEQ ID NOS: 82

SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 5
LENGTH: 1080
TYPE: DNA
ORGANISM: feline CD86
FEATURE:
NAME/KEY: CDS
LOCATION: (63)..(1052)
US-09-303-040-5

Query Match 63.2%; Score 227; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3,7e-118;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGCAATTTCAACT	60
DB	546	ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGCAATTTCAACT	605
QY	61	ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGCAACTGTACACGTT	120
DB	606	ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGCAACTGTACACGTT	665
QY	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCACAACATGTGACGCTTTTGGCCCTG	180
DB	666	TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCACAACATGTGACGCTTTTGGCCCTG	725
QY	181	AAACTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA	227
DB	726	AAACTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA	772

RESULT 3
US-09-962-969-31
Sequence 31, Application US/09962969
Publication No. US20030045703A1
GENERAL INFORMATION:

APPLICANT: Sharpe, Sharpe
Borriello, Francesco Paolo
Freeman, Gordon
Nadler, Lee
TITLE OF INVENTION: Molecules and Uses Therefor
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/962,969
FILING DATE: 24-Sep-2001
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/702,525
FILING DATE: <unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWT-120CPUS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 672.967 Seconds
(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359
Sequence: 1 atacaaggtaccagaacc.....ggcgacaagaqlactacaca 359

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 16154066 seqs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: listing first 100 summaries

Database :

EST:*
1: em_estbta:*
2: em_estbhum:*
3: em_estlin:*
4: em_estmu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_hic:*
9: gb_est1:*
10: gb_est2:*
11: gb_hic:*
12: gb_est3:*
13: gb_est4:*
14: gb_est5:*
15: em_estfun:*
16: em_estom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_inv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_rtd:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Length	ID	Description
1	21	5.8	167	AZ121157	AZ121157 RPT-23-1
2	21	5.8	407	AM617088	AM617088 EST323499
3	21	5.8	420	AZ235242	AZ235242 RPT-23-7
4	21	5.8	420	AZ496704	AZ496704 IM0333F13
5	21	5.8	512	AA056905	AA056905 EST224F.P
6	21	5.8	515	BG622615	BG622615 602647359

7	20	5.6	172	AM034773	AM034773 EST278809
8	20	5.6	237	BG628176	BG628176 CC-esf1C
9	20	5.6	424	AO315914	AO315914 RPT11-1N
10	20	5.6	438	AO504944	AO504944 RPT-11-2
11	20	5.6	536	AQ455702	AQ455702 HS-5068.B
12	19	5.3	329	BE825954	BE825954 CM2-EN001
13	19	5.3	381	BF037606	BF037606 601461178
14	19	5.3	391	AZ639695	AZ639695 IM0501N13
15	19	5.3	415	AO518306	AO518306 HS-5105.A
16	19	5.3	418	BM064190	BM064190 UT-M-EQ0-
17	19	5.3	439	BG308450	BG308450 f1.92356.x
18	19	5.3	520	AZ214107	AZ214107 Sheared D
19	19	5.3	549	BJ332252	BJ332252 BJ332252
20	19	5.3	557	BI881983	BI881983 fm87d07.x
21	19	5.3	561	BI534423	BI534423 fr90g09.x
22	19	5.3	590	BM023714	BM023714 fu67e06.x
23	19	5.3	595	AZ849042	AZ849042 2M0150K17
24	19	5.3	610	BM103329	BM103329 fv20a05.x
25	19	5.3	614	BJ333141	BJ333141 BJ333141
26	19	5.3	623	BM571199	BM571199 fw75b03.x
27	19	5.3	638	BM530205	BM530205 fw73c07.x
28	19	5.3	645	AZ409539	AZ409539 IM0181N12
29	19	5.3	650	AQ657076	AQ657076 Sheared D
30	19	5.3	664	BF650796	BF650796 NF096H10E
31	19	5.3	692	AZ220176	AZ220176 Sheared D
32	19	5.3	695	BG708661	BG708661 602672589
33	19	5.3	723	BI669723	BI669723 603293258
34	19	5.3	724	AZ418977	AZ418977 IM0195115
35	19	5.3	738	BG306113	BG306113 fms2d07.x
36	19	5.3	751	AM076961	AM076961 fj33b01.x
37	19	5.3	756	AZ417121	AZ417121 IM0192110
38	19	5.3	842	BG708702	BG708702 602674248
39	19	5.3	875	BG495687	BG495687 602538361
40	19	5.3	925	BI559259	BI559259 603240895
41	18	5.0	98	AB036296	AB036296 AB036296
42	18	5.0	213	BG280087	BG280087 b8q07np.f
43	18	5.0	245	BG006453	BG006453 MR3-GN018
44	18	5.0	250	AZ776235	AZ776235 2M0009008
45	18	5.0	260	AM709568	AM709568 d6b049e.x
46	18	5.0	264	AV227043	AV227043 AV227043
47	18	5.0	266	BF356168	BF356168 RC0-HT068
48	18	5.0	303	AZ882488	AZ882488 RPT-23-2
49	18	5.0	314	BM312994	BM312994 BB312994
50	18	5.0	331	AM711750	AM711750 f5f03ne.x
51	18	5.0	331	BE545483	BE545483 UI-R-C1-f
52	18	5.0	338	A1321575	A1321575 g9f06nm.f
53	18	5.0	345	BG280113	BG280113 b8h12np.f
54	18	5.0	347	AM723089	AM723089 d9f06nm.f
55	18	5.0	347	BG001664	BG001664 RC4-GN006
56	18	5.0	350	BG278365	BG278365 a3g10np.f
57	18	5.0	354	AM740051	AM740051 BR110056
58	18	5.0	364	BG279930	BG279930 b7f01np.f
59	18	5.0	370	AA625671	AA625671 zu91d09.s
60	18	5.0	378	AA973397	AA973397 o044d04.s
61	18	5.0	381	AV970694	AV970694 AV970694
62	18	5.0	382	AZ293751	AZ293751 RPT-23-6
63	18	5.0	389	AO532595	AO532595 CITB1-El-
64	18	5.0	391	A1632116	A1632116 t885b01.x
65	18	5.0	394	AM716236	AM716236 g9h11nm.f
66	18	5.0	395	BP0722750	BP0722750 NCSMAE27
67	18	5.0	396	AM711712	AM711712 f5d03ne.f
68	18	5.0	398	AO268418	AO268418 RPT11-69
69	18	5.0	399	BG278877	BG278877 a7h11np.f
70	18	5.0	400	AM711732	AM711732 f5e03ne.f
71	18	5.0	400	BG278415	BG278415 a4b09np.f
72	18	5.0	409	AO621378	AO621378 HS-2180.A
73	18	5.0	412	BF658317	BF658317 ma88a01.
74	18	5.0	413	A1812520	A1812520 12C10 Pln
75	18	5.0	414	AZ213172	AZ213172 Sheared D
76	18	5.0	420	AO849111	AO849111 IMAJFV.1
77	18	5.0	424	BH242748	BH242748 AUTFE04TF
78	18	5.0	429	AA661094	AA661094 JMO00278
79	18	5.0	429	BP015071	BP015071 BP015071

```

c 80      18      5.0      436      12      BG279275      BG279275      B2a05np.f
c 81      18      5.0      444      12      BG280115      BG280115      cba02np.f
c 82      18      5.0      446      10      AW711008      AW711008      ebb10ne.f
c 83      18      5.0      457      17      DR19J1T      AL737842      danto.rer
c 84      18      5.0      461      12      BG278232      BG278232      a2f01np.f
c 85      18      5.0      464      9      AA901713      AA901713      NCP5E3T7
c 86      18      5.0      465      10      BB831951      BB831951      HS_5143.A
c 87      18      5.0      466      17      AO615745      BE831118      PM2-MT003
c 88      18      5.0      475      12      BE831118      BG279196      b1e02np.f
c 89      18      5.0      477      12      BG279196      A1398863      NCM09F3T7
c 90      18      5.0      480      9      A1398863      A1750143      at27n10.x
c 91      18      5.0      480      9      A1750143      BM695966      UI-E-CL1-
c 92      18      5.0      481      14      BM695966      AA901716      NCP5D9T7
c 93      18      5.0      483      9      AA901716      AV993842      AV993842
c 94      18      5.0      487      10      AV993842      BG726932      sae29a02.
c 95      18      5.0      487      12      BG726932      AM516826      xq04h01.x
c 96      18      5.0      496      10      AM516826      BE206250      ba95f08.x
c 97      18      5.0      503      10      BE206250      AA901714      NCP4E2T7
c 98      18      5.0      508      9      AA901714      BJ037109      BJ037109
c 99      18      5.0      525      13      BJ037109      BJ490489      BJ490489
c 100     18      5.0      525      13      BJ490489

```

ALIGNMENTS

```

RESULT 1
A2121157/c 167 bp DNA linear GSS 12-MAY-2000
LOCUS RPCI-23-1G3.TV RPCI-23 Mus musculus genomic clone RPCI-23-1G3, DNA
DEFINITION sequence.

```

```

ACCESSION A2121157
VERSION A2121157.1 GI:7787791
KEYWORDS GSS.
SOURCE house mouse.
ORGANISM Mus musculus.

```

```

REFERENCE 1 (bases 1 to 167)
AUTHORS Zhao, S., Nierman, W., Feldbljym, T., Malek, J., Shatsman, S., Akliret, B., Levins, M., McGann, S., Tsegaye, G., Geer, K., Krol, M., de Jong, P. and Fraser, C.M.

```

```

TITLE Mouse BAC End Sequences from Library RPCI-23
JOURNAL Unpublished (1999)
COMMENT Other_GSSs: RPCI-23-1G3.TU
Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0200
Fax: 301 838 0208
Email: szhao@tigr.org

```

```

Clones are derived from the mouse BAC library RPCI-23. For BAC
library availability, please contact Pieter de Jong
(peter@dejong.med.buffalo.edu). Clones may be purchased from
BACPAC Resources (http://bacpac.med.buffalo.edu/orderingframe.htm)
or from Resea ch Genetics (info@resgen.com). BAC end page:
http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html
Plate: 1 row: G column: 3
Seq primer: T7
Class: BAC ends.

```

FEATURES

SOURCE

```

Location/Qualifiers
1. 167
/organism="Mus musculus"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="RPCI-23-1G3"
/clone_1ib="RPCI-23"
/sex="Female"
/lab_host="DH10B"
/note="Organ: Kidney/Brain: Vector: pBACe3.6; site_1:
EcORI, site_2: EcORI; Female C57BL/6J mouse kidney and/or
brain genomic DNA was isolated and partially digested

```

```

BASE COUNT 33 a 25 c 38 g 71 t
with a combination of EcoRI and EcoRI Methylase. Size
selected DNA was cloned into the pBACe3.6 vector at the
EcoRI sites. The ligation products were transformed into
DH10B electrocompetent cells (BRL Life Technologies).

```

```

Query Match 5.8%; Score 21; DB 17; Length 167;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY 206 TCTCCCTACCTTCAATATAG 226
Db 23 TCTCCCTACCTTCAATATAG 3

```

```

RESULT 2
AW617088/c 407 bp mRNA linear EST 18-MAY-2001
LOCUS EST323499 L. hirsutum trichome, Cornell University Lycopersicon
DEFINITION hirsutum cDNA clone cLHR21F11 5', mRNA sequence.
ACCESSION AW617088
VERSION AW617088.1 GI:7323198
KEYWORDS EST.
SOURCE Lycopersicon hirsutum.
ORGANISM Lycopersicon hirsutum.

```

```

REFERENCE 1 (bases 1 to 407)
AUTHORS van der Hoeven, R.S., Bezzeredes, J.L., Materu, A.L., Holt, I.E., Liang, F., Hansen, T., Craven, M.B., Bowman, C.L., Rongning, C.M., Nierman, W., Fraser, C.M., Martin, G.B., Giovannoni, J.J. and Tanksley, S.D.
TITLE Generation of ESTs from wild tomato (Lycopersicon hirsutum) trichomes.
JOURNAL Unpublished (2000)
COMMENT Contact: CUGI
Clemson University Genomics Institute
Clemson University
100 Jordan Hall, Clemson, SC 29634, USA
Email: http://www.genome.clemson.edu/orders/index.html
5 prime sequence.

```

```

TITLE Lycopersicon.
JOURNAL Unpublished (2000)
COMMENT Contact: CUGI
Clemson University Genomics Institute
Clemson University
100 Jordan Hall, Clemson, SC 29634, USA
Email: http://www.genome.clemson.edu/orders/index.html
5 prime sequence.

```

FEATURES

SOURCE

```

Location/Qualifiers
1. 407
/organism="Lycopersicon hirsutum"
/db_xref="taxon:62890"
/clone="cLHR21F11"
/clone_1ib="L. hirsutum trichome, Cornell University"
/tissue_type="trichome"
/dev_stage="mixed stages"
/note="Leaves of various stages were shaken in liquid
nitrogen, shearing off trichomes. This procedure yielded a
mixture of cells which is highly enriched for trichome
likely with minor contaminations of other types of leaf
cells"
BASE COUNT 120 a 59 c 84 g 144 t

```

```

Query Match 5.8%; Score 21; DB 10; Length 407;
Best Local Similarity 100.0%; Pred. No. 1.3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY 234 CAAAGGAGAGAGAGAGAGAG 254
Db 139 CAAAGGAGAGAGAGAGAGAG 119

```

```

RESULT 3
A235242/c 420 bp DNA linear GSS 14-JUN-2000
LOCUS RPCI-23-71J9.TV RPCI-23 Mus musculus genomic clone RPCI-23-71J9,
DEFINITION DNA sequence.

```

GenCore version 5.1.4_p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 17.2157 Seconds
(without alignments)
6395.163 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359
Sequence: 1 atacaaggtaccaggaacc.....ggcgacaaagtactacaca 359

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 441362 segs, 15338381 residues

Word size : 0
Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 100 summaries

Database :

Issued_Patents_NA: *
1: /cgn2_6/prodata/1/lna/5A.COMB.seq: *
2: /cgn2_6/prodata/1/lna/5B.COMB.seq: *
3: /cgn2_6/prodata/1/lna/6A.COMB.seq: *
4: /cgn2_6/prodata/1/lna/6B.COMB.seq: *
5: /cgn2_6/prodata/1/lna/PCrUS.COMB.seq: *
6: /cgn2_6/prodata/1/lna/backfile1.seq: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	18	5.0	210	4	US-08-205-697A-31
2	18	5.0	210	4	US-08-702-525-31
3	18	5.0	210	5	PCT-US95-02576-31
4	18	5.0	306	3	US-08-479-744A-46
5	18	5.0	306	3	US-08-280-757B-46
6	18	5.0	751	4	US-09-039-982A-34
7	18	5.0	751	4	US-09-039-641-34
8	18	5.0	751	4	US-09-042-492D-34
9	18	5.0	751	4	US-09-042-492D-34
10	18	5.0	751	4	US-08-913-612A-34
11	18	5.0	837	5	PCT-US94-03744-1
12	18	5.0	972	4	US-08-848-760B-11
13	18	5.0	1002	4	US-09-039-982A-33
14	18	5.0	1002	4	US-09-039-641-33
15	18	5.0	1002	4	US-09-042-492D-33
16	18	5.0	1002	4	US-09-042-492D-33
17	18	5.0	1002	4	US-08-913-612A-33
18	18	5.0	1120	2	US-08-456-104-1
19	18	5.0	1120	2	US-08-101-624-1
20	18	5.0	1120	3	US-08-479-744A-1
21	18	5.0	1120	3	US-08-280-757B-1
22	18	5.0	1120	4	US-08-205-697A-22
23	18	5.0	1120	4	US-08-702-525-22
24	18	5.0	1120	4	US-08-403-253A-3
25	18	5.0	1120	5	PCT-US95-02576-22
26	18	5.0	1161	4	US-08-205-697A-24
27	18	5.0	1161	4	US-08-702-525-24

28	18	5.0	1161	5	PCT-US95-02576-24	Sequence 24, Appl
29	18	5.0	1424	4	US-09-326-186B-226	Sequence 226, App
30	18	5.0	1428	1	PCT-US94-09642-1	Sequence 1, Appl
31	18	5.0	1491	4	US-09-058-947A-3	Sequence 3, Appl
32	18	5.0	1502	4	US-08-868-373-11	Sequence 11, Appl
33	18	5.0	1807	4	US-09-058-947A-2	Sequence 2, Appl
34	18	5.0	3722	4	US-09-058-947A-1	Sequence 1, Appl
35	17	4.7	18	2	US-08-588-684B-2598	Sequence 2598, Ap
36	17	4.7	18	4	US-09-038-073-2598	Sequence 2598, Ap
37	17	4.7	3761	4	US-08-890-865A-2	Sequence 2, Appl
38	17	4.7	5874	4	US-08-843-417-9	Sequence 9, Appl
39	17	4.7	10411	4	US-08-961-527-09	Sequence 89, Appl
40	16	4.5	36	1	US-08-717-526-79	Sequence 79, Appl
41	16	4.5	291	4	US-09-134-001C-2587	Sequence 2587, Ap
42	16	4.5	475	4	US-09-328-111-263	Sequence 263, App
43	16	4.5	660	4	US-09-134-001C-2814	Sequence 2814, Ap
44	16	4.5	1314	4	US-08-928-442-2	Sequence 2, Appl
45	16	4.5	1448	1	US-08-035-634-1	Sequence 1, Appl
46	16	4.5	1508	4	US-09-518-914-1	Sequence 1, Appl
47	16	4.5	1541	4	US-09-518-914-3	Sequence 3, Appl
48	16	4.5	1895	4	US-09-444-336-7	Sequence 7, Appl
49	16	4.5	2182	4	US-09-039-046-3	Sequence 3, Appl
50	16	4.5	2322	1	US-08-618-164-1	Sequence 1, Appl
51	16	4.5	2714	3	US-09-002-298-4	Sequence 4, Appl
52	16	4.5	2726	1	US-08-461-823-1	Sequence 1, Appl
53	16	4.5	2796	1	US-08-261-677-8	Sequence 8, Appl
54	16	4.5	2796	2	US-08-384-556A-4	Sequence 4, Appl
55	16	4.5	2796	3	US-08-331-355A-8	Sequence 8, Appl
56	16	4.5	2796	3	US-08-777-147-5	Sequence 5, Appl
57	16	4.5	2796	5	US-09-157-077-8	Sequence 8, Appl
58	16	4.5	2796	5	PCT-US94-12364-8	Sequence 8, Appl
59	16	4.5	2796	5	PCT-US95-07753-4	Sequence 4, Appl
60	16	4.5	3455	2	US-08-861-464-3	Sequence 3, Appl
61	16	4.5	3455	2	US-08-386-001-3	Sequence 3, Appl
62	16	4.5	3455	2	US-09-323-433A-3	Sequence 3, Appl
63	16	4.5	4233	3	US-09-120-513-1	Sequence 1, Appl
64	16	4.5	4233	4	US-09-450-105-1	Sequence 1, Appl
65	16	4.5	4264	2	US-08-784-649A-1	Sequence 1, Appl
66	16	4.5	4264	2	US-08-784-649A-5	Sequence 5, Appl
67	16	4.5	4669	1	US-08-181-471-2	Sequence 2, Appl
68	16	4.5	4669	2	US-08-752-447-1	Sequence 1, Appl
69	16	4.5	4669	2	US-09-316-167-1	Sequence 1, Appl
70	16	4.5	4669	6	US-08-920-812-20	Sequence 20, Appl
71	16	4.5	5541	1	US-08-920-812-20	Sequence 20, Appl
72	16	4.5	5541	1	US-08-921-177-20	Sequence 20, Appl
73	16	4.5	5541	1	US-08-362-577C-20	Sequence 20, Appl
74	16	4.5	5541	1	US-08-920-812-20	Sequence 20, Appl
75	16	4.5	5541	2	US-08-793-610-5	Sequence 5, Appl
76	16	4.5	5505	2	US-09-172-422-2	Sequence 2, Appl
77	16	4.5	8473	4	US-08-793-610-6	Sequence 6, Appl
78	16	4.5	9318	2	US-08-961-527-151	Sequence 151, App
79	16	4.5	13425	4	US-09-245-041-5	Sequence 5, Appl
80	15	4.2	27	4	US-08-584-040-231	Sequence 531, Ap
81	15	4.2	31	2	US-08-859-998-239	Sequence 239, App
82	15	4.2	299	4	US-08-905-223-243	Sequence 243, App
83	15	4.2	886	3	US-09-109-204-20	Sequence 20, Appl
84	15	4.2	930	4	US-08-858-207A-218	Sequence 218, App
85	15	4.2	930	4	US-09-134-001C-638	Sequence 638, App
86	15	4.2	1048	2	US-08-887-340-3	Sequence 3, Appl
87	15	4.2	1070	1	US-09-252-329-3	Sequence 3, Appl
88	15	4.2	1070	1	US-08-463-090B-5	Sequence 5, Appl
89	15	4.2	1154	2	US-08-723-415B-3	Sequence 3, Appl
90	15	4.2	1154	3	US-09-189-627A-3	Sequence 3, Appl
91	15	4.2	1154	4	US-09-710-861-3	Sequence 3, Appl
92	15	4.2	1157	2	US-08-723-415B-5	Sequence 5, Appl
93	15	4.2	1157	3	US-09-189-627A-5	Sequence 5, Appl
94	15	4.2	1157	3	US-09-710-861-5	Sequence 5, Appl
95	15	4.2	1157	3	US-08-723-415B-7	Sequence 7, Appl
96	15	4.2	1202	2	US-08-723-415B-7	Sequence 7, Appl
97	15	4.2	1202	3	US-09-189-627A-7	Sequence 7, Appl
98	15	4.2	1202	4	US-09-710-861-7	Sequence 7, Appl
99	15	4.2	1202	4	US-08-684-862-9	Sequence 9, Appl
100	15	4.2	1333	1	US-08-684-862-9	Sequence 9, Appl

ALIGNMENTS

RESULT 1

US-08-205-697A-31
Sequence 31, Application US/08205697A
Patent No. 6218510
GENERAL INFORMATION:
APPLICANT: Sharpe, Arlene H.
APPLICANT: Borriello, Francescopaulo
APPLICANT: Freeman, Gordon J.
APPLICANT: Nadler, Lee M.
TITLE OF INVENTION: No. 6218510el Forms of T Cell Costimulatory Molecules
TITLE OF INVENTION: and Uses Therefor
NUMBER OF SEQUENCES: 61
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/205,697A
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWI-120
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
NAME/KEY: CDS
LOCATION: 1..183
US-08-205-697A-31
Query Match 5.0%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 4.1;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 295 AGATCTGATGAAGCCGAG 312
|||||
DB 112 AGATCTGATGAAGCCGAG 129

RESULT 2

US-08-702-525-31
Sequence 31, Application US/08702525
Patent No. 6294660
GENERAL INFORMATION:
APPLICANT: Sharpe, Arlene
APPLICANT: Borriello, Francescopaulo
APPLICANT: Freeman, Gordon
APPLICANT: Nadler, Lee
TITLE OF INVENTION: No. 6294660el Forms of T Cell Costimulatory
TITLE OF INVENTION: Molecules and Uses Therefor
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:

ADDRESSEE: LAHIVE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/702,525
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWI-120CPUS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
NAME/KEY: CDS
LOCATION: 1..183
US-08-702-525-31

Query Match 5.0%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 4.1;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 295 AGATCTGATGAAGCCGAG 312
|||||
DB 112 AGATCTGATGAAGCCGAG 129

RESULT 3

PCT-US95-02576-31
Sequence 31, Application PC/TUS9502576
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: Novel Forms of T Cell Costimulatory Molecules
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/02576
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.